Remarks

Reconsideration of this Application is respectfully requested. Claims 1-20 are pending in the application, with 1, 8, 15, and 20 being the independent claims. Based on the following Remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and withdraw them.

Interview

The Applicants thank Examiners Charles and Sough for taking time on November 12, 2004, to conduct an interview in this case. During the interview, the Applicants provided additional explanation of the invention and pointed out the need in the art for the invention. The Examiners agreed to conduct an additional search, specifically to determine whether a non-transparent exchange-traded fund portfolio, claimed as the present invention, is disclosed in the prior art.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 1, 8, and 15 under 35 U.S.C. § 112, *second paragraph*, as allegedly "being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. It is not clear how the entity impacts the computers or the computer program, the impact of the invention is not apparent since the claims start with the receiving point, and it is not clear what the output is from the invention." The Applicants disagree, and request reconsideration.

First, the Examiner's citation to MPEP § 2171.01 is inconsistent with a rejection under 35 U.S.C. § 112, second paragraph. The cited portion of the MPEP reads, in part, "A claim which omits matter disclosed to be essential to the invention as described in the specification or in other statements of record may be rejected under 35 U.S.C. 112, *first paragraph*, as not enabling." (emphasis added). No matter described or disclosed as essential has been omitted from the claims, and the Examiner has neither pointed out any such described "essential" subject matter in the specification nor suggested that the subject matter of the rejected claims is not enabled. The Applicants respectfully submit that the Examiner's citation of MPEP § 2171.01 was in error.

The rejection under 35 U.S.C. § 112, second paragraph, is likewise improper. Rejections under the second paragraph of section 112 relate to the definiteness of the claims, which turns on "whether those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986). The rejected claims completely satisfy the definiteness requirement of section 112. For example, claim 1 reads:

> 1. A method of hedging investment risk in an actively managed exchange traded fund, comprising:
>
> receiving or determining factor information about the actively managed exchange traded fund holdings, wherein one or more computers programmed with factor analysis software determine the factor information, which measures sensitivities of the fund holdings to factors that affect the value of the fund holdings; and
>
> using one or more computers with the factor information as an input to select a portfolio of financial instruments to produce a hedging portfolio with substantially the same sensitivities to the factors that affect the value of the fund holdings,
> wherein the specific securities in the actively managed exchange traded fund are unknown to an entity who uses the hedging portfolio to hedge against an investment in the actively managed exchange traded fund.

This claim is sufficiently definite because those of ordinary skill in the art can understand what is claimed when the claim is read in view of the specification. *See* Declaration of Charles A. Baker, filed herewith, at ¶ 6. This claim clearly requires "receiving or determining factor information about the actively managed exchange traded fund holdings." This step is described in detail in the specification, for example, at page 14. The claim goes on to describe that the factor information "measures sensitivities of the fund holdings to factors that affect the value of the fund holdings." The use of factor analysis to analyze how various factors have an effect on pricing of an underlying portfolio is described in several printed publications that are cited in the specification at pages 14-15 and that are incorporated by reference. The claim then states that a computer is used to "select a portfolio of financial instruments to produce a hedging portfolio with substantially the same sensitivities to the factors that affect the value of the fund holdings." The references cited above provide details, in addition to those provided in the specification on page 16, as to how this step may be accomplished. The result of this step is a "hedging portfolio," which the claim states is used by an entity to "hedge against an investment in the

actively managed exchange traded fund." This step is likewise described on page 16 of the specification. One novel and non-obvious aspect of the present invention is that "the specific securities in the actively managed exchange traded fund are unknown" to the entity that uses the "hedging portfolio" to "hedge against an investment in the actively managed exchange traded fund."

Thus, the Examiner is incorrect in her statement that it "is not clear how the entity impacts the computers or the computer program, the impact of the invention is not apparent since the claims start with the receiving point, and it is not clear what the output is from the invention." It is perfectly clear from the language of the claim itself that the output from the invention is a hedging portfolio that can be used by the entity to hedge against an investment in the actively managed exchange-traded fund without knowing (or even being able to know, because of its manager's secrecy) the specific securities in the actively managed exchange-traded fund itself.

The Applicants respectfully request reconsideration of the rejections under § 112, second paragraph, and that the rejections be withdrawn.

Rejections Under 35 U.S.C. § 103

The Importance of the Claimed Invention to the Industry and the Industry's Inability to Solve The Problems Solved by the Claimed Invention

The rejections under section 103 are based on an incorrect interpretation of the teachings of the applied references and a misunderstanding of the claimed subject matter. All of the rejected claims relate to systems and methods to allow hedging against an investment in an actively managed exchange-traded fund (AMETF) without knowledge of the specific assets underlying the AMETF. The way the invention allows such hedging is by creation of a hedging portfolio using factor analysis to develop a hedging portfolio with substantially the same sensitivities to a set of factors as the AMETF itself. The securities underlying the *hedging* portfolio (but not those of the AMETF itself) can be disclosed to entities that invest in the AMETF in order to allow those entities to hedge against their investments, but the securities underlying the AMETF itself can be kept secret. Such secrecy is an established practice for managers of actively managed funds in order to prevent "front running" and "free riding" by other investors.

It is clear that the present invention is new and non-obvious. *See* Declaration of Charles A. Baker at ¶ 17. The importance of systems and methods that allow trading of AMETFs has been recognized in several financial publications. *See* Declaration of Charles A. Baker at ¶¶ 15-16. First, the SEC itself has recognized the need in the art for systems and methods to allow trading of AMETFs, and that such systems and methods did not yet exist:

> "Recently, the concept of an 'actively managed ETF' has attracted significant attention, even though many of the details regarding the potential operations of actively managed ETFs are apparently still in development."

> - SEC Concept Release, November 2001 (filed herewith as **Exhibit A**)

Likewise, TheStreet.com and the Wall Street Journal (U.S.) have recognized the long felt industry need for trading of AMETFs:

> "[W]hat about actively managed funds? Will they ever come in the exchange-traded variety?" The consensus at an industry conference . . . is that they will."
>
> - TheStreet.com, May 16, 2000 (filed herewith as **Exhibit B**)
>
> "There remains a great deal of opportunity for new innovations and product extensions into fixed income, leveraged and enhanced ETFs, with eventually even an actively managed version."
>
> - TheStreet.com, May 16, 2001 (filed herewith as **Exhibit C**)
>
> "About a half-dozen mutual-fund companies are interested in launching actively managed exchange-traded funds."
>
> - The Wall Street Journal, May 16, 2000 (filed herewith as **Exhibit D**)

The Wall Street Journal, The Wall Street Journal Europe, and Sovereignwealth.com have recognized the difficulties of implementing a solution that would allow the trading of AMETFs:

> "The main hurdle to constructing actively managed ETFs has to do with overcoming issues of transparency. With index-tracking ETFs, investors know exactly what's inside and, therefore, how shares should be valued. But if active managers bare their holdings, they risk giving other investors a chance to mirror their strategies while ETF investors pay the fees."
>
> - The Wall Street Journal, January 11, 2005 (filed herewith as **Exhibit E**)
>
> "[Actively managed exchange-traded funds], the most ambitious of the new products, faces huge hurdles that could take years to clear. But that hasn't stopped fund companies from pouring money into development."
>
> - The Wall Street Journal Europe, September 26, 2000 (filed herewith as **Exhibit F**)

> "[A]t least six firms are slated to offer actively managed ETFs in the next year, although portfolio transparency issues must be resolved beforehand."
>
> - Sovereignwealth.com, 2001 (filed herewith as **Exhibit G**)

The "transparency issues" referred to in the Sovereignwealth.com article relate to the fact that the specific holdings of an AMETF must not be disclosed (to prevent front running and free riding), but certain information is required in order to allow hedging and valuation of the AMETF. *See* Declaration of Charles A. Baker at ¶¶ 10-13. ***The hedging problem was solved by the present invention.***

The importance of the present invention by the American Stock Exchange was recognized in a publication by the Financial Research Corporation:

> "Actively managed ETFs have yet to be filed with the SEC because nobody has yet been able to figure out how to create one.... It seems that only a few rocket scientists at the American Stock Exchange...have the ability to envision the mechanics of putting together an actively managed ETF."
>
> - Financial Research Corp., May 31, 2000 (filed herewith as **Exhibit H**)

Similarly, the Wall Street Journal has recently recognized AMEX's solution to the problems blocking AMETFS:

> "The American Stock Exchange says it has developed a way to overcome [transparency] issues: don't reveal the underlying holdings of the actively managed ETF, but instead construct a tracking portfolio with the same risk characteristics."
>
> - The Wall Street Journal, January 11, 2005 (filed herewith as **Exhibit E**)

These publications establish the long felt need in the art for systems and methods to allow trading of AMETFs, the difficulties in developing such systems and methods, and the great achievement that the American Stock Exchange has realized by developing such systems and

methods, as reflected in the presently claimed invention. These publications demonstrate the non-obviousness of the presently claimed invention. *See Graham v. John Deere*, 383 U.S. 1, 17-18 (1966).

Rejections of Claims 1-4, 6-11, 13-14, and 20 Over Jennings and Cheong

The Examiner rejected claims 1-4, 6-11, 13-14, and 20 under 35 U.S.C. § 103(a) as allegedly having been obvious from the combination of U.S. Patent No. 6,606,615 ("Jennings *et al.*") in combination with Kiwoong Cheong, "A Test of the Multi-Factor Asset Pricing Model With The ASA-NBER Macroeconomic Forecasts" ("Cheong"). The Examiner is incorrect in her readings of these references; neither reference alone nor in combination teaches or suggests the claimed invention.

Claims 1, 8, and 20

Jennings et al. Bears No Relation Whatsoever to the Present Invention

As an initial matter, the primary reference relied upon by the Examiner in these rejections, Jennings *et al.*, is *completely unrelated* to the present invention. There is absolutely no similarity between the systems and methods discussed by Jennings *et al.* and the presently claimed invention. Jennings *et al.* relates to systems and methods to allow individuals to make predictions regarding various future events, including the outcome of sporting events and financial forecasts (Jennings *et al.* at col. 1, lines 16-18). Jennings *et al.* provides a forum for a "contest" wherein participants make predictions about future events, and the participants are then ranked according to the accuracy of their predictions (Jennings *et al.* at col. 6, line 55 – col. 13, line 15). Jennings *et al.* has absolutely nothing to do with the present invention, which relates to systems and methods which employ factor analysis to determine a hedging portfolio for an

actively managed exchange-traded fund (AMETF) without revealing the specific assets held in the AMETF.

The Examiner wrote that "Jennings et al. disclose a method and computer program product residing on a computer readable medium for hedging investment risk (Abstract, col. 8, lines 5-55, col. 9, line 60-col. 10, line 15, col. 34, lines 25-67)." Jennings *et al.* discloses no such thing. The citations to Jennings *et al.* are inapposite. The Jennings *et al.* abstract merely confirms that this reference relates to a "contest" for predicting future events, and neither mentions nor suggests a method of hedging investment risk in an AMETF. Col. 8, lines 5-55 of that reference relate to the ranking of participants in the "contest" discussed in Jennings *et al.* Col. 9, line 60 – col. 10, line 15 and col. 34, lines 25-67 of that reference relate to prediction input techniques that allow the participants in the "contest" to input their predictions relating to future events. Nothing in any of these citations relate to methods for hedging investment risk.

The Examiner wrote that Jennings *et al.* teaches "one or more computers programmed with factor analysis software determines the factor information (col. 9, line 1 – col. 10, line 15) [and] Using one or more computers with the factor information as an input (col. 9, line 1 – col. 10, line 15)." Again, the citation to Jennings *et al.* does not teach or suggest what the Examiner states. Instead, this portion of Jennings *et al.* relates to prediction input techniques to allow the participants in the "contest" to input their predictions relating to future events. Nothing in this citation relates at all to factor analysis or determining factor information relating to an AMETF.

The Examiner wrote that Jennings *et al.* teaches that "specific securities in the actively managed exchange traded fund are unknown to an entity who uses the hedging portfolio to hedge against an investment (col. 11, line 65 – col. 13, line 15)." The citation to col. 11 – col. 13 has absolutely nothing to do with the claim limitation that the specific securities in the AMETF are

unknown. Rather, col. 11, line 65 – col. 13, line 15 of Jennings *et al.* relates to making predictions relating to the future value of a variable when there is insufficient participation in the "contest" relating to the prediction of that variable (col. 11, line 65 – col. 12, line 45), and to using the "contest" to predict the future price of derivative instruments (i.e., options contracts on an underlying security) (col. 12, line 46 – col. 13, line 15). These teachings are completely unrelated to the claim limitation requiring that the specific securities underlying the AMETF are unknown to an entity who uses the hedging portfolio to hedge against an investment in the AMETF.

The Examiner correctly notes, however, that Jennings *et al.* does not disclose "receiving or determining factor information about the actively managed exchange traded fund holdings, which measures sensitivities of the fund holdings to factors that affect the value of the fund holdings; and to select a portfolio of financial instruments to produce a hedging portfolio with substantially the same sensitivities to the factors that affect the value of the fund holdings."

Cheong Does Not Supplement the Deficiencies of Jennings et al.

As demonstrated above, Jennings *et al.* does not provide one single teaching that is at all related to the invention claimed in the rejected claims. While Cheong may at least relate to factor analysis, Cheong provides absolutely no teaching that makes that reference any more relevant to the presently claimed invention than Jennings *et al.*

The Examiner wrote that "Cheong disclose(s) factor analysis as it applies to predication [sic] methods. It would be obvious to one of ordinary skill in the art to modify the invention of Jennings *et al.* based on the teachings of Kiwoong Cheong. The motivation to combine these

references is to effectively and efficiently build a model portfolio for getting more accurate estimates of risk premia."

The reason provided by the Examiner for combining the references, "for getting more accurate estimates of risk premia," is unrelated to the presently claimed invention. The presently claimed invention does not involve any sort of "prediction methods" and makes no attempt to get "more accurate estimates of risk premia." The present invention applies factor analysis not for the purpose of "predicting" the future performance of the AMETF, but for identifying substitute financial instruments that can be expected to perform the same way as the financial instruments in the AMETF *no matter what that performance may be.* Thus, even if the Examiner's interpretation of the teachings of Cheong were correct, the combination of Jennings *et al.* and Cheong still would fail to teach or suggest the presently claimed invention.

While Cheong does relate to the use of factor analysis in a financial context, Cheong's use of factor analysis is completely unrelated to the use of factor analysis in the presently claimed invention. Cheong merely tests the arbitrage pricing theory (APT) model by first identifying factors using "inter-battery factor analysis" to identify the number of common factors for portfolios. (See Cheong at chapters 3, 6). Then, in chapter 5, Cheong tests the APT model to determine whether factor loading affects the risk premium. There is no relation whatsoever between how Cheong uses factor analysis and how factor analysis is used in the present invention. Rather than using factor analysis to determine whether factor loading affects the risk premium (as in Cheong), the present invention uses factor analysis to provide a "hedging portfolio" with substantially the same sensitivity to a set of factors as an actively managed exchange-traded fund in order to provide investors with a means to hedge their investments in

the actively managed exchange-traded fund, all without revealing the identity of the specific assets held in the actively managed exchange-traded fund.

Thus Cheong is completely unrelated to the present invention. Cheong does not mention or suggest the creation of a "hedging portfolio." Cheong does not supplement the deficiencies in Jennings *et al.* Neither Jennings *et al.* nor Cheong, nor the combination, teaches or suggests the invention claimed in claims 1 and 8.

Claims 2 and 9

The Examiner wrote that "Jennings et al. disclose hedging portfolio tracks the price of the fund (col. 12, line 45 – col. 13, line 15)." The Examiner is mistaken in her reading of Jennings *et al.* Nowhere does Jennings *et al.* disclose a hedging portfolio at all, let alone a hedging portfolio that tracks the price of an actively managed exchange-traded fund. The cited portion of Jennings *et al.* is entitled "Pricing Derivative Instruments." The way that Jennings *et al.* proposes to achieve "pricing derivative instruments" is by using forecast data provided by participants in a "contest" in which the participants attempt to predict, for example, the future price of securities. The "derivative instruments" referred to by Jennings *et al.* are, for example, stock options whose value can be derived based on the value of the underlying securities, and therefore, the future price of securities determined by the "contest" participants can be used to estimate the value of the "derivative instruments." Thus Jennings does not disclose or suggest either a "hedging portfolio" or an actively managed exchange traded fund. Jennings' method is *completely unrelated* to the present invention, in which a hedging portfolio derived using factor analysis is provided to track the price of an actively managed exchange-traded fund.

Claims 3 and 10

The Examiner wrote that "Jennings et al. disclose using the hedging portfolio to hedge a position taken in the exchange traded fund (col. 30, line 60 – col. 32, line 15)." The Examiner is again mistaken in her reading of Jennings *et al.* The cited portion of Jennings *et al.* has absolutely nothing to do with using a hedging portfolio to hedge a position taken in an exchange-traded fund. Rather, it relates to the use of a particular software implementation ("the Workbench") used by participants in Jennings *et al.*'s "contest" to enter their predictions.

Claims 4, 6, 11, and 13

The Examiner wrote that "Cheong disclose(s) factor analysis as it applies to predication [sic] methods. It would be obvious to one of ordinary skill in the art to modify the invention of Jennings et al. based on the teachings of Kiwoong Cheong. The motivation to combine these references is to effectively and efficiently build a model portfolio for getting more accurate estimates of risk premia." Once again, it is unclear why the Examiner considers "getting more accurate estimates of risk premia" as a reason to combine Jennings *et al.* with Cheong. The present invention has nothing to do with prediction methods, or "estimates of risk premia." Instead, the invention of claims 4 and 11 relate to applying "factor analysis to the portfolio of the exchange traded fund to determine the sensitivity of the fund to the factors." And claims 6 and 13 specify that the "factors include economic activity, inflation rates or other factors that are related to measures of economic activity." Thus, while Jennings *et al.* and Cheong cannot be properly combined, even if they were to be combined, the combination still does not teach or suggest the presently claimed invention.

Claims 7 and 14

The Examiner wrote that "Cheong disclose(s) factor analysis and groupings of securities, along with securities market value weighing." Even if the Examiner is correct in her reading of Cheong in this regard, still Cheong fails to teach or suggest the recitation of claims 7 and 14 that factor analysis is used in "constructing the hedging portfolio." Thus, neither Cheong nor Jennings *et al.* nor the combination teach or suggest the claimed invention.

Rejections of Claims 15-19 Over Jennings, Cheong, and Meyers

The Examiner rejected claims 15-19 under 35 U.S.C. § 103(a) as allegedly having been obvious from the combination of Jennings *et al.*, Cheong, and Meyers *et al.* (U.S. Patent No. 5,937,159). It is noted here that the Examiner's use of Jennings *et al.* in combination with Cheong is exactly the same as above, and thus the rejections of claim 15-19 suffer from the same deficiencies as noted above. The only difference between the rejections discussed above and the rejection here of claims 15-19 is the addition of Meyers *et al.*, which is only used for its disclosure of a trusted computer system. Meyers *et al.*, however, completely fails to teach or suggest the use of a trusted computer system in the context of systems and methods for trading actively managed exchange-traded funds by using factor analysis to provide a hedging portfolio to allow an entity to hedge an investment in the actively managed exchange-traded fund without knowing the specific assets underlying the actively managed exchange-traded fund. Thus, Meyers *et al.* completely fails to supplement the deficiencies found in the combination of Jennings *et al.* and Cheong. Jennings *et al.*, Cheong, and Meyers *et al.*, either individually or in combination, fail to teach or suggest the invention claimed in claims 15-19.

Summary

The presently claimed invention relates to systems and methods to allow trading of actively managed exchange-traded funds while maintaining secrecy of the assets underlying the AMETFs by using factor analysis to create a hedging portfolio with substantially the same sensitivity to a set of factors as the AMETF. Systems and methods to allow trading of AMETFs have long been needed by the industry as demonstrated above by quotes from several industry publications. One of the obstacles to trading AMETFs is the "transparency problem," that is the problem that actively managed funds must maintain a level of secrecy in order to prevent front running and free riding, but investors require sufficient information to hedge their investments in AMETFs. Therefore, the present invention allows for the creation of AMETFs by providing sufficient information to hedge investments in AMETFs without disclosing the specific assets underlying the AMETFs. The solution provided by the present invention has been met with praise in the industry. Efforts of others in the industry did not provide this solution. No prior art reference or combination of references teaches or suggests this solution.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Michael Stimson at (949) 759-3961.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

Michael J. Bell (Reg. No. 39,604)
Michael J. Stimson (Reg. No. 45,429)

Date: March 18, 2005

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EXHIBIT A

SEC Concept Release:
Actively Managed Exchange-Traded Funds

SECURITIES AND EXCHANGE COMMISSION

17 CFR Part 270

[Release No. IC-25258; File No. S7-20-01]

RIN 3235-AI35

Actively Managed Exchange-Traded Funds

Agency: Securities and Exchange Commission ("Commission").

Action: Concept release; request for comments.

Summary: The Commission is seeking comment on various issues relating to actively managed exchange-traded funds ("ETFs"). All existing ETFs are based on various equity market indices. An actively managed ETF would not track an index. This type of ETF currently does not exist, and the Commission is interested in public comments on this concept to help inform the Commission's consideration of any proposals for actively managed ETFs.

Dates: Comments must be submitted on or before [insert date 60 days after date of publication in the Federal Register].

Addresses: Persons wishing to submit written comments should send three copies of the comment letter to Jonathan G. Katz, Secretary, Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. Comments also may be submitted electronically at the following E-mail address: rule-comments@sec.gov. All comment letters should refer to File No. S7-20-01, and comments submitted by E-mail should include this file number in the subject line. Comment letters received will be available for public inspection and copying in the Commission's Public Reference Room, 450 Fifth Street, NW, Washington, DC 20549. Electronically submitted comment letters also will be posted on the Commission's Internet web site (http://www.sec.gov). The Commission does not edit personal identifying information, such as names or E-mail addresses, from electronic submissions. Submit only the information you wish to make publicly available.

For Further Information Contact: Michael W. Mundt, Senior Special Counsel, or Nadya B. Roytblat, Assistant Director, at (202) 942-0564 (Office of Investment Company Regulation, Division of Investment Management, Commission, 450 Fifth Street, NW, Washington, DC 20549-

0506).

Supplementary Information:

Table of Contents

I. Introduction

A. The Popularity of ETFs

The growing interest in exchange-traded funds ("ETFs") is one of the notable developments in the area of investment management over the past few years. During the year 2000, the number of ETFs increased from 30 to 80, and the amount of assets held by ETFs nearly doubled from $34 billion to $66 billion.[1] While the total amount of ETF assets at the end of 2000 was still relatively small when compared to the approximately $4 trillion of assets in equity open-end investment companies ("open-end funds" or "mutual funds"), ETF assets were much closer to the $89 billion of total assets invested in unit investment trusts ("UITs") and the $135 billion of total assets invested in closed-end investment companies ("closed-end funds").[2] Moreover, during the first three quarters of 2001, net new investment in ETFs amounted to approximately $24 billion, as compared to approximately $13 billion for equity mutual funds.[3] By the end of September 2001, shareholders had invested more than $64 billion in a total of 92 ETFs.[4] Trading in ETF shares reportedly has accounted for as much as two-thirds of the daily volume on the American Stock Exchange ("AMEX").[5]

B. What Are ETFs?

ETFs are investment companies that are registered under the Investment Company Act of 1940 ("Act") as open-end funds or UITs.[6] Unlike typical open-end funds or UITs, ETFs do not sell or redeem their individual shares ("ETF shares") at net asset value ("NAV").[7] Instead, ETFs sell and redeem ETF shares at NAV only in large blocks (such as 50,000 ETF shares). In addition, national securities exchanges list ETF shares for trading, which allows investors to purchase and sell individual ETF shares among themselves at market prices throughout the day. ETFs therefore possess characteristics of traditional open-end funds and UITs, which issue redeemable shares, and of closed-end funds, which generally issue shares that trade at negotiated prices on national securities exchanges and are not redeemable.[8] A fundamental characteristic of all existing ETFs traded in the United States is that they are based on specific domestic and foreign market indices. An "index-based ETF" seeks to track the performance of an index by holding in its portfolio either the contents of the index or a representative sample of the securities in the index.

C. The Purpose of the Concept Release

Recently, the concept of an "actively managed ETF" has attracted significant attention, even though many of the details regarding the potential operations of actively managed ETFs are apparently still in development.[9] Unlike an index-based ETF, an actively managed ETF would not seek to track the return of a particular index by replicating or sampling index securities. Instead, an actively managed ETF's investment adviser could select securities consistent with the ETF's investment objectives and policies without reference to the composition of an index.

Because of their unique operations, index-based ETFs first must apply to the Commission to obtain exemptive relief from certain provisions of the Act. For example, exemptive relief is necessary for index-based ETFs to redeem ETF shares only in large aggregations and for ETF shares to trade at negotiated prices in the secondary market. An actively managed ETF also would be required to obtain exemptive relief from the Act.

Before we can grant the exemptions necessary to permit the introduction of actively managed ETFs, we must conclude that the exemptions are in the public interest and consistent with the protection of investors and the purposes of the Act.[10] As part of this process, we are issuing this release to seek comment from the public regarding the concept of actively managed ETFs. We expect that this concept release will generate comments and ideas from a wide range of parties, including individual and institutional investors, shareholder organizations, financial planners, investment advisers, fund organizations, market makers, arbitrageurs, ETF sponsors, and national securities exchanges. Our goal is to gain a better understanding of the various perspectives on the concept of actively managed ETFs. We then will be able to evaluate better any proposals for these types of products as they are presented to us through the exemptive process on a case-by-case basis.

II. Background

A. The Development of Existing ETFs

1. ETFs Organized as UITs

In January 1993, a subsidiary of the AMEX introduced the first ETF - the SPDR Trust. The SPDR Trust, which issues ETF shares referred to as SPDRs (pronounced "spiders"), is a UIT that tracks the Standard & Poor's 500 Composite Stock Price Index ("S&P 500 Index") by holding substantially all of the securities in the S&P 500 Index in substantially the same weightings as in the S&P 500 Index. The trustee adjusts the portfolio of the SPDR Trust only to reflect changes in the composition of the S&P 500 Index.[11]

In order to offer SPDRs, the SPDR Trust obtained exemptions from various provisions of the Act.[12] Among other things, the exemptions allow the SPDR Trust to redeem SPDRs in large aggregations only, SPDRs to trade at negotiated prices in the secondary market, dealers to sell SPDRs to purchasers in the secondary market unaccompanied by a prospectus (when prospectus delivery is not required by the Securities Act of 1933 ("Securities Act")), and certain affiliated persons of the SPDR Trust to deposit securities into, and receive securities from, the SPDR Trust in connection with the purchase and redemption of large aggregations of SPDRs. Since the introduction of SPDRs, ETF sponsors have launched three additional ETFs organized as UITs. The MID CAP SPDR Trust tracks the Standard & Poor's ("S&P") MidCap 400 Index; the Diamonds Trust (which issues units known as "Diamonds") tracks the Dow Jones Industrial Average; and the Nasdaq-100 Trust (which issues units known as "Cubes") tracks the Nasdaq-100 Index. Each of these ETFs obtained exemptive relief similar to the relief granted to the SPDR Trust.

2. ETFs Organized as Open-End Funds

In March 1996, ETF sponsors introduced the first two ETFs organized as open-end funds. The CountryBaskets Index Fund, Inc., advised by Deutsche Morgan Grenfell/C. J. Lawrence Inc., consisted of different portfolios ("series") that tracked various country indices of the Financial Times/S&P Actuaries World Indices.[13] The Foreign Fund, Inc., advised by BZW Barclays Global Fund Advisers ("Barclays"), offers series that track various Morgan Stanley Capital International ("MSCI") country indices.[14] These ETFs obtained exemptions from various provisions of the Act that were generally analogous to the exemptions obtained by the ETFs organized as UITs.[15]

Many ETFs organized as open-end funds replicate the holdings of their corresponding indices to track the performance of the indices. However, because ETFs organized as open-end funds employ investment advisers, some of these ETFs instead may use "sampling strategies" to track the performance of an index. Using a sampling strategy, an investment adviser can construct a portfolio that is a subset of the component securities in the corresponding index, rather than a replication of the index. The investment adviser also may acquire securities for the ETF portfolio that are not included in the corresponding index. While these ETFs still seek to track the performance of their respective indices, they have greater flexibility in accomplishing that goal. In addition, ETFs that are open-end funds are not prohibited from participating in securities lending programs or from using futures and options in achieving their investment objectives. The revenue generated by these activities may help the ETF to offset expenses that otherwise could cause the performance of the ETF to lag behind the performance of its index (because an index does not have any expenses). Eighty-eight of the 92 ETFs in existence at the end of September 2001 were organized as open-end funds.[16]

B. How Existing ETFs Operate

Regardless of the organizational structure of an ETF, all existing ETFs operate in essentially the same manner. Unlike typical open-end funds or UITs, ETFs issue shares only in large aggregations or blocks (such as 50,000 ETF shares) called "Creation Units." An investor, usually a brokerage house or large institutional investor, may purchase a Creation Unit with a "Portfolio Deposit" equal in value to the aggregate NAV of the ETF Shares in the Creation Unit. The investment adviser or sponsor of the ETF announces the contents of the Portfolio Deposit at the beginning of each business day. The Portfolio Deposit generally consists of a basket of securities that mirrors the composition of the ETF's portfolio. Because the purchase price of the Creation Unit must equal the NAV of the underlying ETF shares, the required Portfolio Deposit generally also includes a small amount of cash to account for the difference between the value of the basket of securities and the NAV of the ETF shares. The value of a Creation Unit typically exceeds several million dollars. After purchasing a Creation Unit, the investor may hold the ETF shares, or sell some or all of the ETF shares to investors in the secondary market.

1. Secondary Market Trading

Like operating companies or closed-end funds, ETFs register offers and sales of shares under the Securities Act and list their ETF shares for trading on a national securities exchange under the Securities Exchange Act of 1934 ("Exchange Act"). As with any listed security, investors also may trade ETF shares in off-exchange transactions. In either case, ETF shares trade at negotiated prices. The development of the secondary market in ETF shares depends upon the activities of the exchange specialist assigned to make a market in the ETF shares and upon the willingness of Creation Unit purchasers to sell ETF shares in the secondary market.

ETF shares purchased in the secondary market are not redeemable from the ETF except in Creation Unit aggregations. If an investor presents a Creation Unit to the ETF for redemption, the redeeming investor receives a "Redemption Basket," the contents of which are identified by the ETF investment adviser or sponsor at the beginning of the day. The Redemption Basket (usually the same as the Portfolio Deposit) consists of securities and a small amount of cash. As with purchases from the ETF, redemptions from the ETF are priced at NAV (*i.e.*, the value of the Redemption Basket is equal to the NAV of the ETF shares in the Creation Unit). An investor holding fewer ETF shares than the amount needed to constitute a Creation Unit may dispose of those ETF shares only by selling them in the secondary market. The investor receives market price for the ETF shares, which may be higher or lower than the NAV of the ETF shares. The investor also pays customary brokerage commissions on the sale.

2. Arbitrage Opportunities

Because of arbitrage opportunities inherent in the ETF structure, ETF shares generally have not traded in the secondary market at a significant premium or discount in relation to NAV. If ETF shares begin to trade at a discount (*i.e.*, a price less than NAV), arbitrageurs may purchase ETF shares in the secondary market and, after accumulating enough shares to equal a Creation Unit, redeem them from the ETF at NAV, and thereby acquire the more-valuable securities in the Redemption Basket. In purchasing the ETF shares, arbitrageurs create greater market demand for the shares, which may raise the market price to a level closer to NAV. If ETF shares trade at a premium (*i.e.*, a price greater than NAV), arbitrageurs may purchase the securities in the Portfolio Deposit, use them to obtain the more-valuable Creation Units from the ETF and then sell the individual ETF shares in the secondary market to realize their profit. As the supply of individual ETF shares available in the secondary market increases, the price of the ETF shares may fall to levels closer to NAV. An exchange specialist designated to maintain a market in the ETF shares also works to provide appropriate amounts of shares in the secondary market in response to supply and demand.

In addition, because the ETF investment adviser or sponsor announces the identities of the securities in the Portfolio Deposit and Redemption Basket each day, arbitrageurs also may decide to engage in arbitrage transactions based on their need for particular securities (for example, to replace borrowed securities that the arbitrageur previously sold "short") or on their own assessment of the relative value of the Portfolio Deposit or Redemption Basket in comparison to the price of the ETF shares. As an apparent result of this arbitrage discipline, ETF sponsors and market participants report that the average deviation between the daily closing price and the daily

NAV of ETFs that track domestic indices is generally less than 2%.[17] With respect to ETFs that track certain foreign indices, the deviations may be more significant.[18]

C. Reported Uses and Benefits of Existing ETFs

In exemptive applications to permit the operations of ETFs, applicants have argued that ETFs provide investors and the markets with a number of benefits. First, applicants have argued that ETFs provide investors with the opportunity to invest in a diversified basket of securities through the purchase of a single exchange-traded security.[19] As a result, investors can have the diversification benefits of an investment company with the trading flexibility of a stock. In addition, ETF applicants have stated that unlike closed-end funds (the traditional type of investment company that issues exchange-traded shares), ETFs can avoid the discounts and premiums in market price often associated with closed-end fund shares by continually issuing and redeeming ETF shares in Creation Units, and thereby creating an arbitrage mechanism.[20]

1. ETFs as a Tool for Individual Investors

As the ETF marketplace has developed, individual investors apparently have accepted ETFs as an index investment with trading flexibility.[21] Certain individual investors reportedly invest in ETF shares as a long-term investment for asset allocation purposes, while other individual investors apparently trade ETF shares frequently as part of market timing investment strategies.[22] For those investors who trade more frequently, ETFs offer the ability to purchase and sell ETF shares in the secondary market at a known price anytime during the trading day, to purchase ETF shares on margin, and to sell ETF shares short.

2. The Uses of ETFs for Institutional Investors

Institutions also may purchase ETF shares in the secondary market for a variety of reasons. For example, certain pension funds whose investment restrictions preclude investment in index derivatives may instead invest in ETF shares.[23] Other institutions reportedly prefer to hold ETF shares instead of index futures because ETF shares do not have the margin requirements or expiration dates of futures.[24] Some private investment companies (such as hedge funds) reportedly employ ETF shares in hedging strategies by taking certain short or long positions in individual securities of a certain market sector, while taking opposite positions in ETF shares tracking that sector.[25] Other institutional money managers and mutual funds may use ETFs as a temporary means of keeping cash invested in a broad market segment during transitions in investment strategy or management.[26]

3. The Efficiency of ETFs

ETFs also appear to attract investors as a low-cost and tax efficient investment vehicle.[27] Like index-based mutual funds ("index funds"), index-based ETFs are passively managed to track an index and do not have significant turnover in portfolio securities. As a result, ETF expenses are typically lower than the expenses of actively managed mutual funds, which

generally have higher management fees and brokerage expenses due to portfolio trading. In addition, ETF expenses are often lower than the expenses of index funds. Because most ETF shareholders purchase and sell ETF shares through secondary market transactions rather than through transactions with the ETF, ETFs do not have the same degree of shareholder recordkeeping and service expenses as index funds.[28] However, investors who purchase and sell ETF shares in secondary market transactions pay brokerage commissions in connection with those transactions, which can represent an additional cost to investors that is not reflected in the expense ratio of an ETF.

With respect to tax efficiency, ETFs reportedly offer advantages over many mutual funds. When a mutual fund sells portfolio securities to pursue its investment strategies or to generate cash for shareholder redemptions, the mutual fund may realize capital gains if the value of the securities increased while they were in the fund portfolio. A mutual fund distributes accumulated capital gains to its shareholders, and shareholders generally must pay taxes on those distributions. An ETF also may accumulate and distribute capital gains to investors. However, like index funds, an ETF may be more tax efficient than many mutual funds because of the low turnover in its portfolio securities. In addition, the ETF structure may allow an ETF to avoid capital gains to an even greater extent than index funds. Because an ETF typically redeems Creation Units of ETF shares by delivering securities in the Redemption Basket, an ETF does not have to sell securities (and possibly realize capital gains) in order to pay redemptions in cash.[29] The Redemption Basket also may include securities from the ETF portfolio that have the highest unrealized capital gains (*i.e.*, securities that have appreciated in value the most while in the ETF portfolio). Because the ETF may be able to eliminate securities with significant unrealized capital gains from its portfolio through the redemption process, the ETF may avoid realizing some capital gains if the ETF needs to sell securities at a later date to track its index.[30]

III. The Concept of an Actively Managed ETF

As noted above, market participants are interested in developing an "actively managed ETF" - an ETF with an actively managed portfolio that does not seek to replicate the performance of any particular market index. Like existing ETFs, an actively managed ETF would be registered under the Act (as an open-end fund rather than a UIT, because a UIT cannot be managed) and would issue and redeem its shares only in Creation Units. The ETF would list its shares on a national securities exchange, and investors would trade the ETF shares throughout the day at market prices in the secondary market. As with index-based ETFs, the ability to buy and redeem Creation Units at NAV would present arbitrage opportunities if the market price of the individual ETF shares deviated from NAV.

Despite these general similarities, there may be significant structural and operational differences between the two types of products.[31] For example, it is not clear whether an actively managed ETF would propose to inform investors of the contents of its portfolio in the same manner as index-based ETFs (through the daily announcement of the Portfolio Deposit and

Redemption Basket).[32] Because the portfolio of an actively managed ETF likely would change more frequently and in less foreseeable ways than the portfolio of an index-based ETF, it is not clear how or whether an actively managed ETF would propose to communicate intra-day changes to investors.[33] This potential for less transparency in the portfolio holdings of an actively managed ETF may make the process of creating and redeeming Creation Units more difficult or present greater investment risk for arbitrageurs. As a result, an actively managed ETF could have a less efficient arbitrage mechanism than index-based ETFs, which could lead to more significant premiums or discounts in the market price of its shares.

In addition to potential operational differences, an actively managed ETF may not have the same uses and benefits as those associated with index-based ETFs. As described above, many of the uses of existing ETFs, particularly for institutional investors, relate to the fact that ETF shares serve as a proxy for an index, which would not be the case for ETF shares of actively managed ETFs. In addition, an actively managed ETF may have greater turnover in its portfolio securities, which could result in higher expenses and less tax efficiency than index-based ETFs.[34]

We need to consider carefully whether actively managed ETFs are in the public interest and consistent with the protection of investors and the purposes of the Act before we grant the relief necessary to allow for the introduction of these products. To facilitate this process, we are seeking public comment on a wide range of issues posed by the possible introduction of actively managed ETFs. In addition to the specific questions outlined in the following sections, we seek comment on these broad issues:

- How are actively managed ETFs likely to be structured, managed and operated?
- How will investors use, and benefit from, actively managed ETFs?
- Would the exemptive relief that the Commission has granted to index-based ETFs be appropriate for actively managed ETFs?
- Are there any new regulatory concerns that might arise in connection with actively managed ETFs?

IV. Areas for Comment

A. Index-Based ETFs vs. Actively Managed ETFs

For purposes of this release, we have assumed that any ETF that would not seek to track the performance of a market index by either replicating or sampling the index securities in its portfolio would be an actively managed ETF. Thus, actively managed ETFs would include, for example, an ETF that seeks to achieve a multiple (or the reverse) of the performance of a market index. Actively managed ETFs also would include any ETF that, although it may be using a market index as a benchmark for measuring its performance, pursues an investment objective that is not tied to the index.

Is this an appropriate way to distinguish between index-based and actively managed ETFs? Are there any reasons to distinguish between different types of actively managed ETFs? If there are different types of actively managed ETFs, are there any reasons to regulate the various types differently?

B. Operational Issues Relating to Actively Managed ETFs

The unique structure of an ETF - in which investors can buy and redeem Creation Units at NAV, and can sell and purchase individual ETF shares in the secondary market at market price - is designed, among other things, to ensure arbitrage opportunities that would reduce any deviations between the NAV and the market price of ETF shares. The expectation that the market price of ETF shares would track NAV (and the performance of an index) is important to many of the uses of ETF shares as index-based securities. An ETF also is thought to offer advantages over a closed-end fund structure in which discounts from NAV are common. The existing ETFs, as a general matter, have not experienced significant deviations between the NAV and the market price of their ETF shares.[35]

Is it important that ETFs be designed to enable arbitrage and thereby minimize the probability that ETF shares will trade at a large premium or discount? In considering whether to grant the exemptive relief necessary to permit actively managed ETFs, should we be concerned about whether their shares will trade at a significant premium or discount?

It appears that two factors may contribute significantly to the effectiveness of arbitrage in the ETF structure - the transparency of an ETF's portfolio and the liquidity of the securities in the ETF's portfolio.

1. Transparency of an ETF's Portfolio

Existing ETFs generally create and redeem Creation Units through in-kind transactions. At the beginning of each day, the investment adviser or sponsor of the ETF makes available the identities of the securities in the Portfolio Deposit and the Redemption Basket (generally through the National Securities Clearing Corporation, a clearing agency that effects the sales and redemptions of Creation Units for many ETFs). These baskets generally reflect the contents of the portfolio of the ETF on that day and do not change during the day.[36] In addition, the listing exchange makes available the current value of the Portfolio Deposit on a per ETF share basis at 15 second intervals throughout the day and disseminates intra-day values of the relevant index. This high degree of transparency in the investment operations of an ETF helps arbitrageurs determine whether to purchase or redeem Creation Units based on the relative values of the ETF shares in the secondary market and the securities contained in the ETF's portfolio.

What level of transparency in portfolio holdings is necessary to allow for effective arbitrage activity in the shares of an actively managed ETF? Should an actively managed ETF be required to disclose the full contents of its portfolio? Is it sufficient for an actively managed ETF to disclose only a sample of its portfolio or the general characteristics of its portfolio? Can effective arbitrage occur without any disclosure of the specific securities in

an ETF's portfolio (*i.e.*, arbitrage that is based strictly on the NAV and market price of ETF shares)?

How frequently would the investment adviser of an actively managed ETF need to disclose the portfolio securities or characteristics of the ETF portfolio? Would an investment adviser need to disclose intra-day changes in the portfolio of an actively managed ETF? Would there be a need to permit or require the specified Portfolio Deposit or Redemption Basket to change during the day to reflect changes in the ETF's portfolio? If so, what type of notice would be necessary to inform investors of any changes to the Portfolio Deposit or Redemption Basket in the course of a day? Are intra-day values of the Portfolio Deposit meaningful to investors if investors do not know the contents of the ETF portfolio?

Would frequent disclosure of portfolio holdings lead to "front running" of the ETF portfolio, where other investors would trade ahead of the ETF and the Creation Unit purchasers who must assemble Portfolio Deposits?[37] Would frequent disclosure of portfolio holdings lead to "free riding," where other investors would mirror the investment strategies of an actively managed ETF while the ETF investors pay the advisory fees? Would an investment adviser to an actively managed ETF face a conflict between maximizing performance and facilitating arbitrage by informing the marketplace of the adviser's investment strategies (*e.g.*, would there be a reluctance on the part of a portfolio manager to make frequent adjustments in the portfolio because of the possible impact on the arbitrage mechanism)?

2. Liquidity of Securities in an ETF's Portfolio

Existing ETFs track various equity indices including foreign and domestic indices, broad-based indices, and sector indices. All of the indices have specified methodologies for selecting their component securities. The methodologies generally ensure that an index consists of a certain number of component securities, and that those securities will have significant market capitalization and will be actively traded. Because ETFs either replicate or sample the indices, their portfolio securities also should possess these characteristics. Effective arbitrage depends in part upon the ability of investors to readily assemble the Portfolio Deposit for purchases of Creation Units and to sell securities received upon redemption of Creation Units. The liquidity of portfolio securities is an important factor in this process.

Should actively managed ETFs be limited to certain investment objectives or policies that are designed to ensure that the portfolio securities are sufficiently liquid to permit effective arbitrage? If so, what types of parameters are necessary to ensure that an ETF invests in securities that can be readily purchased or sold by arbitrageurs? Should an actively managed ETF be permitted to invest in securities other than equity securities? Should an actively managed ETF be permitted to invest in any illiquid securities or securities that could not be included in a Portfolio Deposit or Redemption Basket? Should an actively managed ETF be prohibited from investing in securities that are not registered under section 12 of the Exchange Act?[38] Should an actively managed ETF be prohibited from investing in securities that are part of an "unsold allotment" within the meaning of section 4(3)(C) of the Securities Act?[39]

Is it necessary for an actively managed ETF to create and redeem Creation Units through in-kind transactions (rather than cash transactions)?[40] Would there be any consequences to permitting cash purchases and redemptions of Creation Units for an actively managed ETF? Could the cash component of a Portfolio Deposit or Redemption Basket be used to account for portfolio securities that could not be included in a Portfolio Deposit or Redemption Basket?[41]

3. Other Operational Issues

What other issues could cause an actively managed ETF to operate differently than an index-based ETF? Would the clearance and settlement procedures for Creation Unit transactions for actively managed ETFs be the same as for index-based ETFs? Are there other operational issues that could affect the willingness of investors to purchase shares of an actively managed ETF either on the secondary market or in Creation Units from the ETF? Would significant deviations between the market price of shares of an actively managed ETF and the NAV of the ETF shares compromise the operations of the ETF?

C. Uses, Benefits and Risks of Actively Managed ETFs

As noted, in granting exemptions under section 6(c), the Commission must find that the exemption is necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the Act.[42] The Commission is interested in learning about the ways in which investors may use actively managed ETFs and the benefits that this new investment product may be expected to bring. The Commission also is seeking comment generally on any aspects of actively managed ETFs that may be relevant to the determination that the Commission would be making under section 6(c).

In determining whether the relief we have granted to permit ETFs should be expanded to permit actively managed ETFs, we think it is appropriate to consider the uses and benefits of existing index-based ETFs, as well as any concerns regarding ETFs generally. What are the most important uses and benefits of index-based ETFs? Have index-based ETFs encountered any problems of which the Commission should be aware in evaluating future ETF proposals?[43] Are investors confused about the differences between ETFs and mutual funds? What measures could be taken to address any potential investor confusion? Does trading in ETF shares have any relation to market volatility, and if so, in what ways?[44] Has the introduction of ETFs generally led to any undesirable consequences for investors?

With respect to the potential for actively managed ETFs, should investors expect that any mutual fund could be transformed into an ETF, or would only certain types of actively managed portfolios lend themselves to the ETF structure? Would closed-end funds seek to convert into actively managed ETFs as a possible means of addressing discounts in share price?[45] Why would an actively managed ETF be a desirable alternative to a mutual fund or closed-end fund that pursues the same investment objectives or strategies?

What would be the principal uses of actively managed ETFs by investors?

Would an actively managed ETF serve primarily as a short-term trading vehicle? Could an actively managed ETF be used to gain exposure to an asset category in a manner similar to index-based ETFs? Would an actively managed ETF have any role in hedging strategies? Would an actively managed ETF appeal more to individual investors or institutional investors?

What would be the principal benefits of actively managed ETFs? Would an actively managed ETF possess the low expenses and tax efficiency associated with existing ETFs? Would the introduction of actively managed ETFs be detrimental to investors, and if so, how? Would investors be confused about the nature of actively managed ETFs? Could actively managed ETFs lead to greater market volatility?[46] Is the development of actively managed ETFs important for U.S. financial institutions to maintain a competitive position in global securities markets?[47]

D. Exemptive Relief from the Investment Company Act for Actively Managed ETFs

Because of their unique structure, ETFs must obtain exemptive relief from certain provisions of the Act. An ETF organized as an open-end fund generally requests an order (i)section 6(c) of the Act granting relief from sections 2(a)(32) and 5(a)(1) of the Act so that the ETF may register under the Act as an open-end fund and issue shares that are redeemable in Creation Units only; (ii) under section 6(c) granting relief from section 22 (d) of the Act and rule 22c-1 under the Act to permit the purchase and sale of individual ETF shares in the secondary market at negotiated prices; and (iii) under sections 6(c) and 17(b) of the Act granting relief from sections 17(a)(1) and (a)(2) of the Act to permit in-kind purchases and redemptions of Creation Units by persons who may be affiliated with the ETF by reason of owning more than 5%, and in some cases more than 25%, of its outstanding securities. Certain ETFs that track foreign indices also have obtained relief under section 6(c) from section 22(e) of the Act so that they may satisfy redemption requests more than seven days after the tender of a Creation Unit for redemption due to delivery cycles for securities in the local markets.

Because actively managed ETFs necessarily would be organized as open-end funds (rather than as UITs with fixed portfolios), these ETFs likely would seek exemptive relief from the same provisions of the Act as existing ETFs that are organized as open-end funds. In considering whether to grant relief from each of the sections outlined above pursuant to sectionthe Commission must find that the exemption is necessary or appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the Act.[48] Under section 17(b), the Commission may exempt a proposed transaction from section 17(a) if evidence establishes that the terms of the transaction, including the consideration to be paid or received, are reasonable and fair and do not involve overreaching, and the proposed transaction is consistent with the policies of the registered investment company and the general provisions of the Act.[49] In evaluating any exemptive applications to permit actively managed ETFs, we would assess whether these exemptive standards are met.

1. Relief for ETFs to Redeem Shares in Large Aggregations Only

Section 5(a)(1) defines an "open-end company" as a management investment company that is offering for sale or has outstanding any redeemable security of which it is the issuer.[50] Section 2(a)(32) defines a redeemable security as any security, other than short-term paper, under the terms of which the holder, upon its presentation to the issuer, is entitled to receive approximately the holder's proportionate share of the issuer's current net assets, or the cash equivalent.[51] Because ETF shares are not individually redeemable, an ETF requests relief to permit the ETF to register and operate as an open-end fund and to issue shares that are redeemable in Creation Units only.

In support of the relief, ETFs have noted that investors may redeem ETF shares in Creation Units from each ETF. ETFs also have noted that because the market price of Creation Units is disciplined by arbitrage opportunities, investors in ETF shares generally should be able to sell ETF shares in the secondary market at approximately their NAV. ETFs organized as open-end funds have agreed as a condition to the exemptive relief that the ETF will not be advertised or marketed as an open-end fund or mutual fund. The prospectuses and advertising materials for ETFs prominently disclose that ETF shares are not individually redeemable and that shareholders may acquire shares from an ETF and tender those shares for redemption to the ETF in Creation Units only.[52]

Would actively managed ETFs present any issues with respect to these exemptions that do not exist with respect to index-based ETFs? Should the potential for more significant deviations between the market price of actively managed ETF shares and the NAV of the shares affect any relief requested from the definition of "redeemable security"? Are greater disclosure efforts necessary to address any potential investor confusion regarding the nature of actively managed ETFs and their shares?

2. Relief for ETF Shares to Trade at Negotiated Prices

Section 22(d), among other things, prohibits a dealer from selling a redeemable security that is being currently offered to the public by or through an underwriter, except at a current public offering price described in the prospectus.[53] Rule 22c-1 generally requires that a dealer selling, redeeming, or repurchasing a redeemable security do so only at a price based on its NAV.[54] Because secondary market trading in ETF shares takes place at negotiated prices, and not at a current offering price described in the prospectus or based on NAV, existing ETFs have obtained exemptions from section 22(d) and rule 22c-1.

In support of their requests for relief, ETFs generally have noted that the provisions of section 22(d), as well as rule 22c-1, appear to be designed to prevent dilution caused by certain riskless-trading schemes by principal underwriters and contract dealers, to prevent unjust discrimination or preferential treatment among buyers resulting from sales at different prices, and to assure an orderly distribution of investment company shares by eliminating price competition from dealers offering shares at less than the published sales price and repurchasing shares at more than the published redemption price. The ETFs submit that secondary market trading in ETF shares does not cause dilution for ETF shareholders because the secondary market transactions do not directly involve ETF portfolio assets

(the transactions are with other investors, not the ETF), and thus have no impact on the NAV of ETF shares held by other investors. In addition, ETFs have stated that to the extent that different prices for ETF shares exist during a given trading day, or from day to day, these variances occur as a result of third-party market forces, such as supply and demand, and not as a result of discrimination or preferential treatment among purchasers. With respect to the orderly distribution of ETF shares, ETFs have noted that anyone may acquire Creation Units from the ETF, and that no dealer should have an advantage over any other dealer in the sale of ETF shares. ETFs also have argued that the distribution system for ETF shares should be orderly because arbitrage activity ensures that the difference between the market price of shares and their NAV remains narrow.[55]

Would actively managed ETFs present any issues with respect to these exemptions that do not exist with respect to index-based ETFs? Would the potential for more significant deviations between the market price of actively managed ETF shares and the NAV of the shares create any potential for discrimination or preferential treatment among investors purchasing and selling shares in the secondary market and those purchasing and redeeming Creation Units? Would more significant deviations lead to a less orderly distribution system for actively managed ETF shares? Are greater disclosure efforts necessary to address potential investor confusion regarding the fact that individual shares of actively managed ETFs would be sold at market price while Creation Unit aggregations of ETF shares would be redeemable at NAV?

3. Relief for In-Kind Transactions between an ETF and Certain Affiliates

Section 17(a) of the Act generally prohibits an affiliated person of a registered investment company, or an affiliated person of such person, from selling any security to or purchasing any security from the company.[56] Because purchases and redemptions of Creation Units may be in-kind rather than cash transactions, section 17(a) may prohibit affiliated persons of an ETF from purchasing or redeeming Creation Units. Section 2(a)(3)(A) of the Act defines "affiliated person" as any person owning 5% or more of an issuer's outstanding voting securities. ETFs indicate that certain large investors may be affiliated persons of an ETF under section 2(a)(3)(A) of the Act ("5% Affiliates"). In addition, some investors may own more than 25% of an ETF's outstanding voting securities and therefore may be deemed an affiliated person of the ETF under section 2(a)(3)(C) of the Act ("25% Affiliates").[57] ETFs have obtained exemptions from section 17(a) to permit 5% Affiliates and 25% Affiliates to purchase and redeem Creation Units through in-kind transactions.

In seeking this relief, ETFs have submitted that because 5% Affiliates and 25% Affiliates are not treated differently from non-affiliates when engaging in purchases and redemptions of Creation Units, there is no opportunity for these affiliated persons to effect a transaction detrimental to the other ETF shareholders. The securities to be deposited for purchases of Creation Units and to be delivered for redemptions of Creation Units are announced at the beginning of each day and are equally applicable to all investors. All purchases and redemptions of Creation Units are at an ETF's next calculated NAV, and the securities deposited or received upon redemption are valued in the same manner, using the same standards, as those securities are valued for purposes of calculating the ETF's NAV.[58]

Would actively managed ETFs present any issues with respect to this exemption that do not exist with respect to index-based ETFs? If an actively managed ETF proposed to alter the contents of its Portfolio Deposit or Redemption Basket during the day to reflect changes in its portfolio, would this process introduce the potential to favor affiliated persons of the ETF? If so, how should this be addressed? Could a 5% Affiliate or 25% Affiliate influence decisions by the investment adviser to an actively managed ETF regarding the securities in the Portfolio Deposit or Redemption Basket on a given day? Would the structure of an actively managed ETF present greater concerns with respect to potential advance communication of information about portfolio changes to affiliates?

4. Relief for Certain ETFs to Redeem Shares in More Than Seven Days

Section 22(e) of the Act generally prohibits a registered open-end investment company from suspending the right of redemption, or postponing the date of payment or satisfaction of redemption requests more than seven days after the tender of a security for redemption.[59] Some ETFs that track foreign indices have stated that local market delivery cycles for transferring securities to redeeming investors, together with local market holiday schedules, require a delivery process in excess of seven days. These ETFs request relief from section 22(e) so that they may satisfy redemptions up to a specified maximum number of calendar days depending upon specific circumstances in the local markets, as disclosed in the ETF's prospectus or statement of additional information ("SAI"). Other than in the disclosed situations, these ETFs satisfy redemptions within seven days.[60]

These ETFs state in their exemptive applications that section 22(e) of the Act is designed to prevent unreasonable, undisclosed, and unforeseen delays in the payment of redemption proceeds and assert that the requested relief will not lead to the problems that section 22(e) was designed to prevent. The anticipated delays in the payment of redemption proceeds would occur principally due to local holidays in the foreign markets. The ETFs state that the SAI will disclose those local holidays (over the period of at least one year following the date of the SAI) that are expected to prevent the delivery of redemption proceeds in seven days and the maximum number of days needed to deliver redemption proceeds.[61]

Would actively managed ETFs present any issues with respect to this exemption that do not exist with respect to index-based ETFs? Could the investment adviser to an actively managed ETF manage the ETF so as to comply with section 22(e)?

E. Potential New Regulatory Issues

In evaluating any specific proposal for an actively managed ETF, the Commission will be considering whether the proposal presents any new regulatory concerns. In this regard, we are interested in public comment on the issues raised below, as well as any additional issues that might be identified by the commenters.

1. Potential Discrimination Among Shareholders

Section 1(b)(3) of the Act states that the public interest and the interest of investors are adversely affected when investment companies issue securities containing inequitable or discriminatory provisions.[62] One potential difference between the existing ETFs and an actively managed ETF is that, in the latter case, significant deviations could develop between the market price and the NAV of the ETF shares. It might also be possible that, during any particular time, the NAV of an actively managed ETF could be increasing while the market price of its shares could be falling, and vice versa.

Would the operation of an actively managed ETF place investors who have the financial resources to purchase or redeem a Creation Unit at NAV in a different position than most retail investors who may buy and sell ETF shares only at market price? Would the operation of an actively managed ETF give rise to a type of discriminatory treatment of shareholders that section 1(b)(3) of the Act was designed to prevent? Commenters who believe that this concern might be raised by an actively managed ETF are encouraged also to discuss the ways in which they believe the Commission should address it.

2. Potential Conflicts of Interest for an ETF's Investment Adviser

Section 1(b)(2) of the Act states that the public interest and the interest of investors are adversely affected when investment companies are organized, operated, managed, or their portfolio securities are selected, in the interest of persons other than shareholders, including directors, officers, investment advisers, or other affiliated persons, and underwriters, brokers, or dealers.[63] The operation of an ETF - specifically, the process in which a Creation Unit is purchased by delivering a basket of securities to the ETF, and redeemed in exchange for a basket of securities - may lend itself to certain conflicts for the ETF's investment adviser, who has discretion to specify the securities included in the baskets. These conflicts would appear to be minimized in the case of an index-based ETF because the universe of securities that may be included in the ETF's portfolio generally is restricted by the composition of its corresponding index. The same would not appear to be the case for an actively managed ETF. The increased investment discretion of the adviser to an actively managed ETF would seem to increase the potential for conflicts of interest. For example, an adviser to an index-based ETF would have little ability to create a market for certain securities in a way that would favor an affiliate. Because the adviser to an actively managed ETF would have greater discretion to designate securities to be included in the Portfolio Deposit or Redemption Basket, a greater potential for conflicts appears to exist.

What potential conflicts of interest would exist for the investment adviser to an actively managed ETF? Would the adviser to an actively managed ETF be in a position to create supply or demand for securities that would favor an affiliate by designating those securities for inclusion in the daily Portfolio Deposit or Redemption Basket? Would the increased value of the information regarding the identity of future deposit or redemption securities create additional conflicts and potential for abuse? What measures should be taken to address any potential conflicts?

3. Prospectus Delivery in Connection with Secondary Market Purchases

Open-end funds and UITs are required to deliver a prospectus in connection with a sale of their shares. Specifically, section 24(d) of the Act provides, in relevant part, that the prospectus delivery exemption provided to dealer transactions by section 4(3) of the Securities Act does not apply to any transaction in a redeemable security issued by an open-end fund or UIT.[64] For transactions in ETF shares in the secondary market, the Commission has granted exemptions under section 6(c) of the Act from section 24(d) to permit dealers selling shares of certain ETFs to rely on the prospectus delivery exemption provided by section 4(3) of the Securities Act.[65] ETFs that have received this relief continue to be subject to prospectus delivery requirements in connection with sales of Creation Units and transactions involving an underwriter.

In support of the relief, applicants have noted that the ETF shares would be listed on a national securities exchange and would be traded in a manner similar to shares of closed-end funds, for which dealers selling shares in the secondary market generally are not required to deliver a prospectus. These ETFs also have agreed that dealers selling their shares will provide investors with a "product description" describing the ETF and its shares.[66] While not intended as a substitute for a prospectus, the product description contains information about the ETF shares that is tailored to meet the needs of investors purchasing the shares in the secondary market. The product description provides a plain English description of the salient features of the ETF shares, including the fact that the shares are index-based securities, the manner in which the ETF shares trade on the secondary market, and the manner in which Creation Units are purchased and redeemed. The product description discloses that the ETF shares are not redeemable individually, and that an investor selling the shares in the secondary market may receive less than the NAV of the ETF shares.[67]

To the extent that actively managed ETFs would seek similar relief from prospectus delivery requirements, would the relief be consistent with the public interest and the protection of investors? Are there any aspects of an actively managed ETF that would make this relief inappropriate? For example, should an actively managed ETF be required to deliver its prospectus in order to communicate its investment strategy or fundamental policies? If the relief is granted on the condition that actively managed ETFs provide investors with a product description, what information about an actively managed ETF is particularly important to include or highlight in the product description?

F. The Concept of an Actively Managed ETF as a Class of a Mutual Fund

1. Multiple Class Open-End Funds

Open-end funds often offer multiple classes of shares representing interests in the same portfolio of securities. An open-end fund may establish a multiple class arrangement generally to offer investors a choice of methods for paying distribution costs or to allow the fund to use alternative distribution channels more efficiently. For example, a fund may offer a class of shares that carries only a front-end sales load, and another class that carries a deferred sales load and an asset-based distribution fee (known as a "rule 12b-1 fee" because it is permitted by rule 12b-1 under the Act[68]).

A multiple class arrangement requires an exemption from sections 18(f)(1) and 18(i) of the Act.[69] Rule 18f-3 under the Act provides that exemption and establishes a framework

governing the multiple class arrangements of open-end funds.[70] Rule 18f-3 addresses issues that may create various conflicts among the different classes of shares of a fund. One requirement of rule 18f-3 is that, other than certain differences allowed by the rule, each class must have the same rights and obligations as each other class.

2. An Index-Based ETF as a Class of an Existing Open-End Fund

In December 2000, the Commission issued the first order to permit certain existing index funds to create a class of shares ("ETF class") that would be listed on a national securities exchange and traded in the secondary market at negotiated prices in the same manner as shares of ETFs ("ETF Class Order").[71] By creating an ETF class, the index funds hope to provide short-term investors and market timers with an attractive means of purchasing shares that can be bought and sold continuously throughout the day at market prices.[72] In their exemptive application, the index funds stated that the purchase and redemption requests by short-term investors in the conventional classes increase a fund's realization of capital gains, increase fund expenses, and hinder a fund's ability to achieve its investment objective of tracking its index. Because transactions in the individual shares of the ETF class would occur in the secondary market, these transactions would not involve the funds, and as a result, would not disrupt the funds' portfolio management or increase the funds' transaction costs.[73]

In the ETF Class Order, exemptive relief from sections 18(f)(1) and 18(i) of the Act was required because, among other reasons, the index funds stated that the conventional shares and exchange-traded shares would have certain different rights.[74] For example, the conventional shares would be individually redeemable from the fund, while exchange-traded shares would be redeemable only in Creation Units. In addition, the exchange-traded shares would be traded in the secondary market, while conventional shares would not. The funds asserted that these different rights were necessary for the proposal to have the desired benefits, and that the different rights did not implicate the concerns underlying section 18 of the Act, including conflicts of interest and investor confusion. With respect to the potential for investor confusion, the funds agreed to take a variety of steps to ensure that investors understand the key differences between the classes of exchange-traded shares and conventional shares.[75]

3. ETF Class of an Actively Managed Open-End Fund

Would actively managed mutual funds seek to introduce exchange-traded classes? Do short-term investors such as market timers and day traders use actively managed funds in the same way that they use index funds? If not, are there different reasons to permit existing actively managed mutual funds to establish ETF classes?

Would ETF classes of actively managed funds present any issues with respect to exemptions from section 18 that do not exist with respect to ETF classes of index funds? Would the portfolio disclosure required to make

fund operations transparent for purposes of the ETF class prove detrimental to the performance of the conventional shares? Would significant redemptions of conventional shares create undesirable tax consequences for ETF class shareholders? Would the existence of an ETF class add volatility to an actively-managed fund? Is there any additional potential for conflicts of interest in connection with an ETF class of an actively managed fund?

Is there additional potential for investor confusion about the nature of the ETF class shares? How would potential investor confusion be addressed? Would prospectus delivery relief be appropriate in connection with ETF classes of actively managed funds, and if so, what information should be included in the product description?

V. Solicitation of Additional Comments

In addition to the areas for comment identified above, we are interested in any other issues that commenters may wish to address relating to actively managed ETFs. Please be as specific as possible in your discussion and analysis of any additional issues.

By the Commission.

Jonathan G. Katz

Secretary

Date: November 8, 2001

Footnotes

1 Investment Company Institute ("ICI"), *Exchange-Traded Funds Statistical Collection*, Feb. 8, 2001. Except for this ICI release, the ICI statistical releases cited in this concept release may be found under "Current Statistical Releases" or "Additional Statistical Releases" at http://www.ici.org/facts_figures/.

2 ICI, *Trends in Mutual Fund Investing July 2001*, Aug. 30, 2001 (for year-end 2000 mutual fund assets); *Unit Investment Trust Data July 2001*, Aug. 21, 2001 (for year-end 2000 UIT assets); *Closed-End Fund Assets, 1990-2000* (for year-end 2000 closed-end fund assets).

3 ICI, *Exchange-Traded Fund Assets*, Oct. 19, 2001 (for third quarter 2001 net investment in ETFs); ICI, *Exchange-Traded Fund Assets June 2001*, July 24, 2001 (for second quarter 2001 net investment in ETFs); ICI, *Exchange-Traded Fund Assets March 2001*, Apr. 26, 2001 (for first quarter 2001 net investment in ETFs); and ICI, *Trends in Mutual Fund Investing September 2001*, Oct. 29, 2001 (for year-to-date net investment in mutual funds through third quarter 2001).

4 ICI, *Exchange-Traded Fund Assets*, Oct. 19, 2001.

5 Aaron Lucchetti and Ken Brown, *Spiders and WEBS: Amex Is Back, Thanks To*

a Tradable Variety of Index Mutual Funds, Wall St. J., Feb. 22, 2000, at A1.

6 Section 5(a)(1) of the Act defines an open-end fund as an investment company that is a management company which offers or has outstanding any redeemable security of which it is the issuer. 15 U.S.C. 80a-5(a)(1). Section 4 (2) of the Act defines a UIT as an investment company that is organized under a trust indenture or similar instrument, that does not have a board of directors, and that issues only redeemable securities, each of which represents an undivided interest in a unit of specified securities. 15 U.S.C. 80a-4(2).

7 The NAV of a share of an investment company is equal to the value of the investment company's total assets, minus liabilities, divided by the number of outstanding shares.

8 Section 5(a)(2) of the Act defines a closed-end fund as any management company other than an open-end company. 15 U.S.C. 80a-5(a)(2)

9 *See, e.g.*, Anthony Ragozino and Charlie J. Gambino, *Actively-Managed Exchange Traded Funds: Coming Soon to a Market Near You?*, 8 Investment Lawyer, No. 5, May 2001, at 3 ("market professionals on Wall Street [are] scrambling to make [actively managed ETFs] available in the United States"); Dan Weil, *Exchange-traded Funds Boosts AMEX Growth*, The Palm Beach Post, Mar. 9, 2001, at 2D (reporting that AMEX president says AMEX will probably begin trading actively managed ETFs within 12 to 18 months); Yuka Hayashi, *New Generation of ETFs on Horizon*, Wall St. J. Europe, Sept. 26, 2000, at 16 (reporting that fund companies are "pouring money into development" of actively managed ETFs); Aaron Lucchetti, *Firms May Explore Funds that Trade on Stock Markets*, Wall St. J., May 16, 2000, at C21 (reporting that AMEX official says about six mutual-fund companies are interested in launching actively managed ETFs).

10 15 U.S.C. 80a-6(c).

11 Because the structure of a UIT does not include the means of providing management, the UIT portfolio is relatively fixed, and elimination and substitution of securities only takes place under unusual circumstances. However, a UIT that tracks an index (like the SPDR Trust) may make adjustments to its portfolio to ensure that the portfolio continues to replicate the index.

12 SPDR Trust, Series 1, Investment Company Act Rel. Nos. 18959 (Sept. 17, 1992) (notice) and 19055 (Oct. 26, 1992) (order) ("SPDR Order").

13 The CountryBaskets Index Fund, Inc. ceased operations in March 1997 and deregistered as an investment company in 1998.

14 The shares issued by The Foreign Fund were known as "World Equity Benchmark Shares" or "WEBs." The ETF recently was renamed iShares Inc., and the shares are now known as "iShares."

15 The CountryBaskets Index Fund, Inc., Investment Company Act Rel. Nos. 21736 (Feb. 6, 1996) (notice) and 21802 (Mar. 5, 1996) (order); The Foreign Fund, Inc., Investment Company Act Rel. Nos. 21737 (Feb. 6, 1996) (notice) and 21803 (Mar. 5, 1996) (order).

16 ETFs organized as open-end funds include the Select Sector SPDR Trust, consisting of series that track various S&P sector indices; iShares Inc. and iShares Trust, consisting of series that track domestic and foreign equity indices compiled by S&P, Dow Jones & Company, Inc. ("Dow Jones"), Frank Russell & Co., and MSCI; and streetTRACKS Series Trust, consisting of series that track indices compiled by Dow Jones, Morgan Stanley Dean Witter, and FORTUNE.

17 *See, e.g.*, Second Amended and Restated Application of Barclays Global Fund

Advisors, File No. 812-11600, filed May 11, 2001 ("Barclays Application") at 57-58 (stating that average deviations between the daily closing price and the daily NAV of ETF shares of ETFs tracking domestic indices range from a premium of .05% to a discount of .02%). Persons may obtain copies of applications cited in this concept release for a fee from the Commission's Public Reference Branch, 450 5th Street, N.W., Washington, D.C. 20549-0102 (telephone 202/942-8090).

See also John Spence, *Salomon Releases ETF Premium/Discount Study*, indexfunds.com, Oct. 23, 2000 (reporting that a Salomon Smith Barney study of the trading of ETF shares found that shares of ETFs tracking domestic indices had an average bid price that was a .17% discount to the ETFs' respective estimated intra-day NAVs, as recorded at random points during the trading days in September 2000), at http://www.indexfunds.com/Pfarticles/20001023_SSMBstudy_iss_etf_JS.htm.

18 *See, e.g.*, Barclays Application at 36 (stating that the Malaysia (Free) WEBs Index Fund traded at wider spreads to NAV following the imposition of capital controls by the Malaysian government in 1998).

See also Memorandum in Support of Hearing Request filed by Fund Democracy, LLC, and the Consumer Federation of America with respect to the Barclays Application (arguing that arbitrage opportunities do not ensure that the difference between the market price and NAV of ETF shares will remain narrow, and citing in particular the experience of ETFs tracking various foreign indices), available at http://www.funddemocracy.com/hearing_request_docs.htm.

19 *See, e.g.*, Fourth Amended and Restated Application of SPDR Trust, Series 1, File No. 812-7545, filed Aug. 7, 1992 ("SPDR Application"), at 42-43. In the SPDR Application, applicants stated that SPDRs were developed in response to the suspension of trading in "index participations" ("IPs"), contracts of indefinite duration based on the value of a basket (index) of securities. *See* SPDR Application at p. 45. Trading in IPs was suspended after the U.S. Court of Appeals for the Seventh Circuit found that IPs represented a futures contract within the exclusive jurisdiction of the Commodity Futures Trading Commission. *Chicago Mercantile Exchange, et al. v. Securities and Exchange Commission, et al.*, 883 F.2d 537 (7 th Cir. 1989), *cert. denied* 496 U.S. 936, 110 S. Ct. 3214 (1990). Because SPDRs represented an interest in an actual portfolio of securities, SPDRs did not present the futurity issues of IPs.

20 *See, e.g.*, Fifth Amended and Restated Application of The CountryBaskets Index Fund, Inc., File No. 812-9188, filed June 30, 1995, at 11.

21 *See, e.g.*, Lee Barney, *Exchange-Traded Funds Continue to Grow in 2001*, TheStreet.com, May 16, 2001 ("The first and foremost reason investors like ETFs is because, like index funds, they offer exposure to a variety of sectors ."), at http://www.thestreet.com/funds/funds/1430991.html; Lee Clifford, *All Your Stocks in One Basket*, Fortune, Mar. 5, 2001, at 200 (explaining how ETFs can be useful for tracking an index, balancing a portfolio, or gaining exposure to a market segment); Barbara Eisner Bayer, *The Latest Indexing Craze*, Fool.com, June 27, 2000 ("Perhaps the greatest benefit of ETFs is that investors will now have instant exposure to a diversified portfolio of stocks."), at http://www.fool.com/Server/FoolPrint.asp?File+/ddow/2000/ddow000627.htm.

22 *See, e.g.*, Aaron Lucchetti, *Tradable Shares Bring Some Buzz to Mutuals*, Wall St. J., June 5, 2000, at R1 (profiling different types of ETF investors); Jerry Morgan, *ETFs, An Alternative to Index Funds*, Newsday, Jan. 29, 2000, at F05; John Spence, *FRC Study Examines Future of ETFs*, indexfunds.com, Nov. 6, 2000 (reporting on a survey conducted by Financial Research Corporation that found that 75% of retail investors surveyed who either owned or had inquired

about ETFs intended to use ETFs primarily for buy-and-hold strategies, while 25% intended to use ETFs for a mix of long-term and trading strategies), at http://www.indexfunds.com/Pfarticles/20001106_FRCstudy_iss_etf_JS.htm.

23 *See, e.g.*, Elgin, Peggie R., *SPDR Web Ensnares Both Active, Passive Fund Managers*, 14 Corporate Cashflow Magazine, No. 13, Dec. 1993, at 5.

24 *See, e.g.*, Barney, *supra* note 21.

25 *See, e.g.*, Allison Bisbey Colter, *Exchange-Traded Funds Are Booming*, Wall St. J., July 12, 2001, at C19 (noting also that some hedge funds use ETF shares instead of index futures to avoid licensing requirements of the Commodity Futures Trading Commission).

26 *See, e.g.*, Fred Williams, *Interest Accelerates: ETFs: Market up 82% to Nearly $76 Billion*, Pensions And Investments, Mar. 5, 2001, at 25.

27 *See, e.g.*, John Spence, *Retail Investor Perception of Exchange-Traded Funds*, indexfunds.com, Feb. 22, 2001 (reporting on survey conducted by Financial Research Corporation that found "tax efficiency," "trading and tax flexibility," and "lower expense ratios" to be the three most commonly cited reasons for potential interest in ETFs among retail investors), at http://www.indexfunds.com/Pfarticles/20010223_ETFperception_iss-etf-JS.htm; Theo Francis, *Navigating the New World of ETFs*, Wall St. J., May 11, 2001, at C1; Sara Robinson, *A Mutual Fund Rival on the Trading Floor*, N.Y. Times, Nov. 7, 1999, at 8.

28 *See, e.g.*, Frederick P. Gabriel Jr., *ETFs May Be Losing Pricing Edge: Some to Have Fees that Match Top Funds*, Investment News, Aug. 27, 2001, at 3 (reporting that an analysis by Lipper Inc. found only a few examples of index funds that are less expensive than ETFs with the same investment objective); Aldo Svaldi, *ETFs Take Aim at Ailing Mutual Funds*, The Denver Post, Mar. 4, 2001, at J-03 (reporting that ETFs that track the larger U.S. indices have an average annual expense ratio of .34%, compared to .50% for an index fund, and 1 to 1.5% for an actively managed mutual fund); Aaron Lucchetti, *Index Mutual Funds Have a Price War*, Wall St. J., at C-1, May 12, 2000 (noting that ETFs may have expense advantages over index funds because they do not deal directly with individual investors through expensive telephone centers and retail offices).

29 Because an ETF does not have to maintain cash reserves to pay redemptions, an ETF also may be able to remain more fully invested in the securities of its corresponding index, which could help an ETF track its index more effectively than some index funds. *See, e.g.*, Albert B. Crenshaw, *Funds that Trade Like Stocks; ETFs Offer Some Advantages over Traditional Mutuals*, Wash. Post, July 9, 2000, at H02.

30 *See, e.g.*, Karen Damato, *Tax Advantages Are Promised by Fund Rivals*, Wall St. J., Sept. 1, 2000, at C1; Dagen McDowell, *Exchange-Traded Funds Are Tax-Efficient, but Not Tax Perfect*, TheStreet.com, Aug. 22, 2000, at http://www.thestreet.com/funds/deardagen/1049339.html.

31 As noted above, many of the details regarding the potential operations of an actively managed ETF are apparently in development. *See, e.g.*, Andrew Greene, *AMEX Plans Active Exchange-Traded Fund*, Mutual Fund Market News, Aug. 14, 2000 (quoting a fund industry observer who describes the development of an actively managed ETF as "the financial industry's equivalent of the space program back in the 1960's" and states that fund companies and exchanges are scrambling to develop something without knowing what it will look like).

32 *See, e.g.*, Dagen McDowell, *Non-Index Exchange-Traded Funds on the Horizon*, TheStreet.com, May 16, 2000 ("a stumbling block to creating an actively managed [ETF] is the transparency of the underlying portfolio . No

fund company or fund manager would want to reveal everything that's in a fund on a regular basis.") at http://www.thestreet.com/funds/deardagen/940643.html.

33 *See, e.g.*, Lucchetti and Brown, *supra* note 5 (reporting that for an actively managed ETF to be priced continuously throughout the day, the ETF manager would have to disclose what the ETF was buying and selling during the day, which most active managers would not wish to do).

34 *See, e.g.*, Michael Santoli, *Great Pretenders: New-fashioned "Funds" No Threat to Old Ones*, Barron's, Apr. 9, 2001, at F18 (noting that some observers do not believe that actively managed ETFs will offer the cost and tax benefits of index-based ETFs); Scott Cooley, *The Time Isn't Right for Actively Managed ETFs*, Morningstar.com (noting that unless managers reduce portfolio trading, an actively managed ETF would not be a tax-efficient vehicle) at http://news.morningstar.com/doc/article/0,1,3073,00.html.

35 *See supra* note 17.

36 Because an index-based ETF seeks to track the performance of an index, often by replicating the component securities of the index, the ETF investment adviser or sponsor has no reservations about informing the marketplace of the contents of the ETF's portfolio.

37 *See, e.g.*, Hayashi, *supra* note 9 (stating that disclosure of the portfolio of an actively managed ETF could lead to front running and create unwanted demand for the stocks identified by the ETF for inclusion in its portfolio).

38 15 U.S.C. 78*l*.

39 15 U.S.C. 77d(3)(C).

40 Though existing ETFs primarily transact in-kind, they generally reserve the possibility of cash purchases and redemptions under certain unusual circumstances, such as on days when a substantial rebalancing of an ETF's portfolio is required. *See, e.g.*, Barclays Application at 23-24. Certain iShares ETFs that invest in certain foreign markets currently effect creations and redemptions through cash transactions.

41 Most ETFs currently reserve the possibility that cash may be substituted for certain securities in a Portfolio Deposit or Redemption Basket under unusual circumstances, such as when an investor who purchases or redeems a Creation Unit is not permitted to transact in particular securities. *See, e.g.*, Barclays Application at 28-29.

42 *See supra* note 10.

43 *See, e.g.*, Karen Damato and Aaron Lucchetti, *Critics Worry About Risks Of Exchange-Traded Funds*, Wall St. J., July 7, 2000, at C1 (reporting on criticism that ETFs may not disclose adequate information about the potential for ETF shares to trade at a premium or discount to NAV).

44 *See* Carol Vinzant, *NASDAQQQ: Trading in Cubes' Is Skyrocketing, and Some Critics Fear The Nasdaq 100-Based Vehicles Are Contributing to Volatility*, Wash. Post, May 10, 2001, at E1 (reporting that some critics believe trading in Cubes has increased market volatility).

But see The October 1987 Market Break, A Report by the Division of Market Regulation, U.S. Securities and Exchange Commission, Feb. 1988, at 3-18 (suggesting that market basket trading could provide an additional layer of liquidity in the market that could reduce volatility).

45 *See, e.g.*, Aaron Lucchetti, *In Closed-Ends, a Possible Way to Get Rid of Discounts to NAV*, Wall St. J., Apr. 10, 2000, at R14 (reporting on idea to

convert closed-end funds to ETFs to eliminate discounts in share prices).

46 *See, e.g.*, Andrew Brent, *SEC Guidance Expected for Exchange Funds*, Mutual Fund Market News, May 28, 2001 (reporting that some analysts believe there are several scenarios in which an actively managed ETF could cause increased market volatility).

47 A type of actively managed exchange-traded investment company was introduced by Deutsche Bank in Germany in November 2000 and has reportedly experienced some success among retail investors in Germany. *See, e.g.*, Stephan Kueffner, *Exchange-Traded Funds Make Their Mark in German Market*, Capital Markets Report, Apr. 23, 2001. As a general matter, investment companies that are not organized or created under the laws of the United States cannot offer, sell, or deliver shares to investors in the United States unless they obtain an order of the Commission. 15 U.S.C. 80a-7(d).

48 *See supra* note 10.

49 15 U.S.C. 80a-17(b).

50 *See supra* note 6.

51 15 U.S.C. 80a-2(a)(32).

52 *See, e.g.*, Barclays Application at 63-70, 81.

53 15 U.S.C. 80a-22(d).

54 17 CFR 270.22c-1.

55 *See, e.g.*, Barclays Application at 70-74.

56 15 U.S.C. 80a-17(a).

57 15 U.S.C. 80a-2(a)(3).

58 *See, e.g.*, Barclays Application at 74-79.

59 15 U.S.C. 80a-22(e).

60 In their applications, ETFs acknowledge that no relief obtained from the requirements of section 22(e) will affect any obligations that they may otherwise have under rule 15c6-1 under the Exchange Act. *See, e.g.*, Second Amended and Restated Application of Barclays Global Fund Advisors, File No. 812-11598, filed May 11, 2001 ("Barclays Foreign Application") at 76. Rule 15c6-1 requires that most securities transactions be settled within three business days of the trade date. 17 CFR 240.15c6-1.

61 *See, e.g.*, Barclays Foreign Application at 76-84.

62 15 U.S.C. 80a-1(b)(3).

63 15 U.S.C. 80a-1(b)(2).

64 15 U.S.C. 80a-24(d); 15 U.S.C. 77d(3).

65 *See, e.g.*, SPDR Order.

66 ETFs that possess relief from section 24(d) are listed on the American Stock Exchange, which has adopted rules requiring the delivery of product descriptions. *See* American Stock Exchange Constitution and Rules & Arbitration Awards, Rules 1000 and 1000A.

67 *See, e.g.*, SPDR Application at 82-98.

68 17 CFR 270.12b-1.

69 Section 18(f)(1) of the Act, in relevant part, prohibits an open-end fund from issuing any class of "senior security," which includes any stock of a class having a priority over any other class as to the distribution of assets or the payment of dividends. 15 U.S.C. 80a-18(f)(1). Section 18(i) of the Act requires that every share of stock issued by an open-end fund be voting stock, with the same voting rights as every other outstanding voting stock. 15 U.S.C. 80a-18(i).

70 17 CFR 270.18f-3.

71 Vanguard Index Funds, Investment Company Act Rel. Nos. 24680 (Oct. 6, 2000) (notice) and 24789 (Dec. 12, 2000) (order).

72 Transactions in an index fund's conventional shares would continue to be priced at that day's NAV. The purchase and redemption of Creation Units also would be priced at NAV.

73 Application of Vanguard Index Funds, File No. 812-12094, filed July 12, 2000 ("Vanguard Application"), at 6-8.

74 In addition to relief from section 18, the ETF Class Order also granted the exemptive relief typically obtained by index-based ETFs organized as open-end funds and prospectus delivery relief.

75 Vanguard Application at 36-47.

http://www.sec.gov/rules/concept/ic-25258.htm

Home | Previous Page Modified: 5/18/2004

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EXHIBIT B

Dear Dagen

Non-Index Exchange-Traded Funds On the Horizon

By Dagen McDowell
Senior Writer
5/16/00 2:12 PM ET
URL: http://www.thestreet.com/funds/deardagen/940643.html

The entry of heavyweight **Vanguard** into the exchange-traded fund business should pave the way for other fund companies to launch their own versions of these new-fangled index products. But what about actively managed funds? Will they ever come in the exchange-traded variety?

The consensus at an industry conference in New York this week sponsored by the **Institute for International Research** is that they will. In fact, you can expect to see the first filings for these actively managed funds showing up at the **Securities and Exchange Commission** by the end of the third quarter, says Larry Larkin, senior vice president at the **American Stock Exchange**.

Larkin says six fund firms are toying with the idea of an actively managed exchange-traded fund, though he wouldn't name names.

Exchange-traded funds have several advantages over traditional mutual funds. They are continually priced and can be traded throughout the day, just like a stock. And holders are less likely to be hit with taxable capital-gains distributions than investors in traditional index funds.

The first actively managed funds that trade on exchanges may look closer to enhanced-index funds than to diversified portfolios like Fidelity Magellan. Enhanced-index funds try to closely track an index while somehow improving upon that benchmark's returns by using stock picking or leverage.

Of course, filing with the SEC doesn't mean the products will start trading anytime soon.

From concept to launch, it took two years for the **Nasdaq 100**-tracking stock (QQQ:Amex) to see the light of day. Vanguard has been working the SEC for a year on its own exchange-traded funds, and it just filed for approval of those last week.

And a stumbling block to creating an actively managed version is the transparency of the underlying portfolio.

Existing exchange-traded funds track known stock indices, so institutional investors and traders know at any given time which stocks make up each of the indices. This information is obviously key in creating new shares of the exchange-traded portfolios and allowing market makers to hedge or offset the risk they bear in trading these instruments.

However, that necessity could become an impediment when talking about actively managed funds. No fund company or fund manager would want to reveal everything that's in a fund on a regular basis. In fact, the manager and the shareholders could be at a disadvantage if the public knows what's in a fund at all times.

Some professionals in the exchange-traded fund business say there's a way to deal with this issue,

though the details are murky at this point.

However, with an enhanced-index fund, a portion of the fund is always a known entity.

And to all of you who plan to email me to say that actively managed exchange-trade funds already exist: they're called closed-end funds: Yes, I know, but because of their structure, close-end funds usually trade at a discount or premium to their net asset values. Exchange-traded funds are structured so that these premiums and discounts are almost non-existent.

More, More, More

Meanwhile, investors can sit back and watch a virtual explosion of new index products in the budding exchange-traded sector, and with it, some healthy price competition that should drive down the cost of owning index funds.

In addition to Vanguard's five funds, which I detailed in a story on Friday, you'll soon see:

- More than two dozen funds from **Barclays Global Investors**, the first four of which will launch on Friday. These so-called **iShares** will track the **S&P 500** (IVV:Amex), **Russell 1000** (IWB:Amex), **Dow Jones U.S. Technology** (IYW:Amex) and **Dow Jones U.S. Internet** (IYV:Amex) indices. A second batch, tracking 10 additional indices, should come out one week later.

- At least eight new funds are coming from **State Street Global Advisors**, which oversees one of the oldest products in the sector, **Spiders** (SPY:Amex).

State Street's new funds should arrive around the middle of June. They'll track four **Dow Jones** indices covering large-cap growth, large-cap value, small-cap growth and small-cap value stocks; the **Dow Jones Global Titans** world-stock index; the **Morgan Stanley Internet** index, known as the MOX; **the Morgan Stanley High Tech 35** index, and a REIT index, says a State Street spokeswoman.

- More index products from the people who brought you the QQQ. John Jacobs, a senior vice president at the Nasdaq, says the exchange is exploring a product that will be broader that the popular QQQ, which commands about $11 billion in assets. That index consists of the 100 largest non-financial companies on the Nasdaq. A new exchange-traded product might include smaller companies and/or financials.

Nuveen Investments, known for its unit investment trusts (UITs), is also expected to get into the game. UITs are similar to exchange-traded funds except that they don't trade on exchanges and have finite lifespans.

Watch to see if State Street lowers the expense ratio on the Spiders even further. It fell to 0.12% earlier this year. But now Barclays has come in with a competing S&P 500 index fund at 0.09%. And who knows where Vanguard will come in? Its old-style 500 Index fund is starting to look a little pricey at 0.18% annually in expenses.

Web Alert

Barclays just opened the Web site for its new exchange-traded funds at www.ishares.com. The site includes descriptions of all the upcoming products and how to use them in your portfolios

Send your questions and comments to deardagen@thestreet.com, and please include your full name.

As originally published, this story contained an error. Please see Corrections and Clarifications.

Dear Dagen aims to provide general fund information. Under no circumstances does the information in this column represent a recommendation to buy or sell funds or other securities.

TheStreet.com

EXHIBIT C

Mutual Funds

Exchange-Traded Funds Continue to Grow in 2001
By Lee Barney
Staff Reporter
5/16/01 2:59 PM ET
URL: http://www.thestreet.com/funds/funds/1430991.html

When the number of exchange-traded funds -- mutual funds based on equity indices that trade like a single stock and can be bought or sold intraday -- first began taking off two years ago, an all-out media frenzy ensued.

ETF assets multiplied 10 times from $6.7 billion in January 1998 to $66 billion as of the end of March 2001. Some predicted that assets in this new type of mutual fund would swell to as much as $500 billion by 2005. Others went so far as to say ETFs could overtake traditional equity mutual funds in popularity.

While the hoopla over ETFs has died down somewhat and their assets are now only projected to reach $200 billion by 2005, ETFs have continued to be popular, even during the recent market downturn. During the past year, ETFs have had $42 billion in net inflows, compared with net outflows of $80 billion for equity funds, according to the **Investment Company Institute**. And in March, ETFs reaped $8.9 billion in inflows, while equity mutual funds lost $20 billion.

What's more, nearly 40 more ETFs are scheduled to be introduced in the U.S. and abroad in the near future, adding to the 83 ETFs currently on the market. The **Singapore Exchange** and the **Australian Stock Exchange** are two of the first foreign exchanges to list ETFs, and many more exchanges are about to offer ETFs in an effort to build volume.

While assets in ETFs still only represent a very small portion of the almost $4 trillion in assets under management in all equity funds, ETFs have an undeniable appeal. Investors apparently like the way that they combine the low-cost, tax-efficient exposure of index funds with the trading flexibility of stocks.

Getting Exposure

The first and foremost reason investors like ETFs is because, like index funds, they offer exposure to a variety of sectors -- be it a broad index like the **S&P 500**, on which **State Street Global Advisors'** spider (S&P Depositary Receipt) is based, or a specific index like the **Barclays' iShares Mexico** fund. "We are finding that fee-based advisors are liking ETFs as an asset-allocation tool," says Gregory Ehret, a principal with State Street, which sponsors 20 ETFs.

Institutional investors also like ETFs as a way to gain exposure to a particular index or sector without having to make individual investment decisions, says Brad Zigler, a principal with Barclays, which offers 61 ETFs. Portfolio managers can buy an ETF and later decide which individual stocks they want to own, he says.

Many investors are buying ETFs right now to take advantage of what they see as the bottom of the market. "Our iShares have been continuing to grow like wildfire," says Ehret. "We have seen assets increase far more than you would expect in a down market."

The biggest ETF of them all is the **QQQ** (QQQ:Amex), or cube, which is based on the **Nasdaq 100** index. Even though it's down 68% over the past year, the QQQ has continued to attract tremendous assets. It currently has $24 billion of assets under management and is trading an average of 80 million shares a day. In the fourth quarter alone, the QQQ attracted a whopping $18 billion in net new cash, according to **Strategic Insight**, a mutual fund consultancy.

Low Fees and Flexibility

Investors also like ETFs because their fees can be even lower than index funds'. ETF fees start as low as nine basis points and can go as high as 70 basis points, says Gavin Quill, senior vice president of **Financial Research**, a fund research company. Index fund fees, on the other hand, average between 20 and 80 basis points, and actively managed funds have fees ranging from 1.3% to 2.5%. Even though ETFs must be bought or sold through a broker, and so incur trading costs, these are generally offset by the lower fees charged by ETFs, according to Quill.

ETFs also differ from index funds because they allow investors to trade in and out of them during the day. This can affect returns by more than 1%, Zigler says. For instance, if an investor in an index fund tracking the S&P wants to sell his or her shares, the investor will only be able to do so at the closing net asset value price of the fund, Zigler says. But in an ETF tracking the S&P, the investor can get whatever price the index is trading for at that moment.

"Because the S&P 500 rises or falls an average of 140 basis points a day, the index fund investor incurs a 140 basis-point risk that they will not get the price that they think they are getting when they make the decision to buy or sell an S&P 500 index fund," Zigler says. But in an S&P ETF, the investor incurs only a three basis-point risk because that's how quickly these orders are processed, he says.

In addition, a big difference between ETFs and index mutual funds is that ETFs allow investors to sell them short or buy on margin. Many ETFs also have put or call options, which are very popular, says Cliff Weber, senior vice president of new product development at the **American Stock Exchange**, which currently lists all U.S. ETFs. In some cases, institutional investors prefer ETFs to futures because ETFs don't have the margin requirements or expiration dates that futures do, says mutual fund consultant Geoffrey Bobroff.

Finally, ETFs have limited embedded capital gains taxes because the specialists who handle them redeem shares in like kind with a counterparty. However, they do incur some capital gains because they are tied to indices and managers have to rebalance their holdings whenever the index is changed, which in some cases can occur quite frequently.

Despite these advantages, though, there are some who don't believe that exchange-traded funds will ever make significant inroads with retail investors.

"They're not sexy enough," says Michael McDonald, a senior vice president with **Salomon Smith Barney**. McDonald compares ETFs to index funds, which he says have never become particularly popular despite having been around for 25 years (currently, index funds account for about 8%, or $319 billion, of the $3.961 trillion in assets under management in equity funds, according to **Morningstar**). With $66 billion in assets, ETFs have less than 1% of the $7 trillion invested in all types of mutual funds.

Waiting for a Rebound

Others feel that once the market recovers, ETFs will regain attention. "The uneven market environment we have been in has caused some retrenchment" away from equity investing, Bobroff says. "Once we get back to a normalized market, exchange-traded funds will again become a focal point. While we have seen a dampening of excitement, these products are still poised for growth," he says.

Of the 40 new ETFs about to be introduced, **Nuveen Investments** is planning five fixed-income ETFs. **Vanguard** is planning one based on the **Wilshire 5000** index and another on the **Russell 2000** index. **ProFunds** hopes to offer as many as a dozen ETFs based on their leveraged index funds. And State Street Global Advisors is about to introduce 14 new ETFs in Europe and Asia.

More exchanges are looking to offer ETFs, as well. The American Stock Exchange is currently the only U.S. exchange to offer ETFs, but the **New York Stock Exchange** has announced plans to cross-list ETFs. Foreign exchanges are also jumping on the ETF bandwagon. Amex recently formed a joint venture with the Singapore Exchange and began cross-trading five Amex-listed ETFs on May 4.

"Over the next two years, we expect several new countries and new exchanges to begin offering their own ETFs. We are also looking for many new sponsors, and a blizzard of new products and cross-listing from established participants," says Financial Research's Quill.

But the low fees that these funds charge will force some to close because they won't make enough money to cover their costs, predicts mutual fund consultant Burton Greenwald. Detractors also point out that some of the niche ETFs are based on esoteric indices that are thinly traded, which can lead to wide bid/ask spreads and, therefore, unfavorable pricing. The **iShares Dow Jones Basic Materials** fund, for instance, traded an average of just 5,700 shares a day in April.

But in the end, ETF sponsors may prove to be just as adaptable as their equity fund colleagues in coming up with products that investors want.

"There remains a great deal of opportunity for new innovations and product extensions into fixed-income, leveraged and enhanced ETFs, with eventually even an actively managed version," says Quill.

EXHIBIT D

5/16/00 Wall St. J. C21
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The Wall Street Journal

Tuesday, May 16, 2000

Firms May Explore Funds That Trade On Stock Markets

By Aaron Lucchetti
Staff Reporter of The Wall Street Journal

About a half-dozen mutual-fund companies are interested in launching actively managed exchange-traded mutual funds, and one may seek regulatory approval to do so by the third quarter of this year, a senior American Stock Exchange official said.

At a conference hosted by the Institute for International Research in New York, Lawrence Larkin, a senior vice president at the Amex, said the mutual-fund companies are exploring ways to use the exchange-traded-fund format to allow stock mutual funds that are headed by professional stock pickers to trade throughout the day like stocks.

Already, various index mutual funds, which are portfolios based on designated stock-market benchmarks, trade on stock exchanges, and they have proved increasingly popular with investors. But the question of whether the exchange-traded fund structure would work with a so-called actively managed fund remains open at many fund firms. Mr. Larkin didn't name the firms involved.

If the funds apply for registration with the Securities and Exchange Commission by the third quarter, regulatory review likely would take several months, at least, pushing actual sales of such a fund into 2001.

Exchange-traded funds, or ETFs, are a hybrid version of a mutual fund that can be bought and sold like a stock, instead of just at 4 p.m. like a traditional mutual fund. They tend to have lower expense ratios than mutual funds because the asset-management firms that sponsor them don't deal directly with the individual investor through expensive telephone centers and retail offices; brokers and financial advisers pick up the slack and sell the products with a commission, similar to a stock.

Separately, Barclays Global Investors, a unit of Barclays PLC, announced the fees it will charge on the first of its 28 index exchange-traded funds. The four funds that will start trading this week on the Amex include the bellwether S&P 500 fund, which will be priced at 0.09% of assets per year, within the earlier estimated range of 0.08% to 0.10% of assets. Two sector index funds, based on indexes compiled by Dow Jones & Co., publisher of The Wall Street Journal, will be priced

at 0.60% of assets per year, a Barclays spokesman said. A fourth index fund, based on the large-stock Russell 1000 Index, will cost 0.15% of assets per year, he added.

---- INDEX REFERENCES ----

NEWS SUBJECT: (Commodity/Financial Market News (MCAT); Fund Markets (M16); News Agency Material (NNAM); Content Types (NCAT); IWE Filter (NIWE))

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EXHIBIT E

January 11, 2005

MUTUAL FUNDS

Next Wave in ETFs: Actively Managed Portfolios

By TARA SIEGEL BERNARD
DOW JONES NEWSWIRES
January 11, 2005; Page D3

The next generation of exchange-traded funds -- which will track investment managers' top picks as opposed to those in an index -- are still being hammered out, but their architects remain hopeful they could start trading this year.

Exchange-traded funds, or ETFs, resemble index-tracking mutual funds but trade on exchanges like stocks. They are easy to build because all funds tracking indexes can essentially be modeled on the same blueprint. An actively managed ETF is an entirely new paradigm, much like the first commodity-tracking ETF in the U.S. -- gold -- that began trading in November after taking two years to gain regulatory approval.

MORE ON ETFS

MUTUAL FUNDS [1] See exchange-traded funds data[2] for the fourth quarter.

The main hurdle to constructing actively managed ETFs has to do with overcoming issues of transparency. With index-tracking ETFs, investors know exactly what's inside and, therefore, how shares should be valued. But if active managers bare their holdings, they risk giving other investors a chance to mirror their strategies while ETF investors pay the fees.

The American Stock Exchange says it has developed a way to overcome those issues: don't reveal the underlying holdings of the actively managed ETF, but instead construct a tracking portfolio with the same risk characteristics. The portfolio's "intraday indicative value" would closely track the actual fund and would be published every 15 seconds, just like with index-based ETFs. The tracking portfolio would enable professional ETF traders like market-makers to hedge their positions, Amex executives said.

"Full disclosure isn't necessarily required. What is necessary is enough information so the market can trade the actively managed ETF at a fair price and within reasonable spreads," said Tony Baker, managing director of the ETF Marketplace at the Amex.

The Amex has tested the process and said there is a very small tracking error between the tracking and actual portfolios. Executives also said that the actual portfolio can't be engineered on the basis of knowing what's in the tracking portfolio. The Amex is also working on an actively managed portfolio that is fully disclosed.

On the active ETFs where the portfolio is disclosed, the exchange has said it is working with a recently formed advisory firm teamed with a larger institution. That firm was expected to file an application with the Securities and Exchange Commission for four such funds by the fourth quarter of last year, but the process took longer than expected. The firm is now expected to file within the next several months. An application for products with model portfolios is expected to be filed within the next six months.

These active ETFs would potentially share many of the widely touted benefits of index-based ETFs, though they probably wouldn't be quite as cheap or tax-efficient.

"There is the opportunity for some tax-efficiency gain [versus traditional mutual funds], but a lot of it depends on the specific fund and how the creation-redemption process is implemented," said Clifford J. Weber, senior vice president of the Amex ETF Marketplace.

The mechanism through which ETF shares are created and redeemed is a key characteristic helping to boost their tax efficiency. It also keeps transaction costs sharply lower. While investors buy and sell their ETF shares on an exchange, ETF shares are created and redeemed when market-makers make in-kind transactions. They can exchange ETF shares for the underlying securities or vice versa. As such, there's no taxable transaction for the fund.

That contrasts with regular mutual funds, which typically receive cash from investors and then buy stocks for the fund. When shareholders cash out, the funds often sell stocks to raise cash, potentially creating capital gains that must be distributed to shareholders.

Write to Tara Siegel Bernard at tara.siegel@dowjones.com[3]

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(3) mailto:tara.siegel@dowjones.com

EXHIBIT F

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The Wall Street Journal Europe

Tuesday, September 26, 2000

Managed & Personal Investing: New Generation of ETFs on Horizon

By Yuka Hayashi
Dow Jones Newswires

NEW YORK -- Fund companies and stock exchanges are working furiously to bring the next generation of exchange-traded fund products to the market.

Existing players and new entrants are preparing a host of new products that they hope will give them an edge in the fast-growing market for exchange-traded funds, also known as ETFs. Some of these new products will invest in bonds; others will be geared to attract overseas investors.

Still others will seek to allow active management by professionals. Unlike current ETFs, which invest in the stocks that make up an index or benchmark, the actively managed versions will allow managers to pick and choose stocks as though they are running a standard mutual fund.

This, the most ambitious of the new products, faces huge hurdles that could take years to clear. But that hasn't stopped fund companies from pouring money into development.

"Any fund family that has actively managed mutual funds is a candidate for issuing an actively managed ETF," said Ramy Shaalan, an analyst at fund tracker Wiesenberger, a unit of Thompson Financial.

ETFs have captured the imagination of professional and individual investors.

The market value of the existing ETFs now totals $48 billion (54.62 billion euros), more than triple the level at the end of 1998, according to Strategic Insight, a New York mutual-fund research firm.

The two market leaders -- Barclays Global Investors and State Street Global Advisors -- have been launching new funds in rapid succession. Barclays, for example, swamped the market with 39 new funds called iShares earlier this year and plans to bring two more stock-index-based products out later this autumn.

The market for these standard ETF products is still growing. Products considered novel only a year or two ago have now become standard cash cows. All existing ETFs in the U.S. are listed on the American Stock Exchange. In addition to funds that

track broad market indexes, such as the Standard Poor's 500-stock index and the Nasdaq 100, investors may now choose from indexes which represent particular industries or sectors, like energy or the Internet, and country and regional stocks.

"For index equity, you do now have a pretty complete set of tools to work with," said Lee Kranefuss, chief executive of Barclays Global's U.S. individual investor business. Leaders like Barclays and State Street see innovation as the way to position themselves for further growth when the existing ETF products mature. The most buzz now surrounds actively traded ETFs, which may be the hardest of all to bring to market. The idea is to allow professional fund mangers to pick stocks which outperform the indexes.

Index-based funds "don't have the big returns that some of the actively managed mutual funds have," said Edgar Cha, an analyst with Strategic Insight. "But once actively managed funds are developed, it's going to have a huge impact on the industry."

The product appears to have promise, but thorny issues must be settled before these funds can get off the ground. The biggest challenge is front-running.

Retail investors buy ETFs with cash. But institutional investors -- who make up half the market -- buy the actual stocks and exchange them for shares in the fund. In other words, it is basically a noncash transfer. Institutions receive a shopping list at the end of each trading day which tells them which stocks and how many to deliver the next day to receive shares in the fund.

This works fine for index funds because people already know what stocks are in the index. But for actively managed funds, such lists mean fund managers are forced to disclose their hands before action is taken. That might create unwanted demand for those stocks, because other investors could front-run, or pick up the same stocks on expectations of buying by ETF fund holders.

---- INDEX REFERENCES ----

NEWS SUBJECT: Dow Jones Personal Finance Product; Stock News; Exchanges; English language content; Share Capital; Funding and Capital; Corporate and Industrial News (DJPF STK XCH ENGL C171 C17 CCAT)

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REGION: Eastern U.S.; United States; North American Countries; Pacific Rim Countries; North America; United States (USE USA NAMZ PACRMZ NME US)

EXHIBIT G

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Exchange Traded Funds (ETF) Fact Sheet

- Comparison
- How do ETFs differ from closed-end funds?
- How are ETFs structured?

Exchange traded funds (ETFs) are open-ended index funds that are bought and sold like common stocks. This flexibility enables investors to purchase and sell shares through any brokerage firm or financial advisor. Similar to traditional index funds, ETFs have lower portfolio turnover, which reduces transaction costs and minimizes capital gains tax distributions. Similar to common stocks, there is tax on any appreciation of an ETF when shares are sold. The largest manager/custodians of ETFs are Barclays Global Investors and State Street Securities.

Comparison

Feature	*Exchange Traded Fund*	*Traditional Mutual Fund*
Pricing	Real-time, intra-day	End-of -day Net Asset Value
Accessibility	Any brokerage firm, Any account	Some fund supermarkets, selective brokers, directly with fund company
Tax efficiency	Minimal taxable capital gains distributions due to low portfolio turnover	Varies depending on fund's portfolio turnover (generally, high turnover = high taxable distributions); retail index funds generally offer low turnover
Fund expense ratio	Very Low	Low to moderate, depending on fund
Transaction Fee	Commission on trade through broker	Typically no transaction fees if purchased at fund company; transaction fees can be charged through fund supermarkets and brokers
Early Sales/Redemption Fee	None	Depends on fund company rules
Two-way trading	Long or short position	Long position only
Buy on Margin	Yes. Buy on margin,(standard margin rules).	Typically no. Funds can be used as collateral

Hedging	Yes. Options and Futures exist on some of the underlying index, and in some cases, on the ETF itself	Difficult to hedge, typically not available. Retail index funds may offer hedging capabilities
Listed Options on Funds	Selected funds	Typically no. May be options on underlying index
Portfolio disclosure	Continually	Semi-annually

How do ETFs differ from closed-end funds?

The darlings of the investment industry in the 1980s, closed-end mutual funds (CEFs) are publicly traded investment companies that raise money from investors though an initial public offering. Unlike the more traditional open-end funds, which issue shares upon demand, CEF shares must be purchased from existing shareholders on an organized exchange.

Because a closed-end fund's shares trade in the stock market based on investor demand, the fund may trade at a price higher or lower than its net asset value (NAV). For example, a closed-end fund in great demand may trade at a share price higher than its NAV. In this case, the fund's shares are said to be selling at a *premium* to its NAV.

Unfortunately, the opposite is far more likely. Based on a less favorable perception of its underlying portfolio or of the market in which it trades, or a lack of investor knowledge or market recognition, a fund may trade at a share price lower than its NAV. Such a fund's shares are said to be selling at a *discount* to the NAV. For example, if a fund has an NAV per share of $100, based on the current value of its portfolio, but is priced at $90, it is selling at a 10 percent discount.

Mainly due to the plethora of available investments, most CEFs are trading at a substantial discount to their NAV. As a group, CEFs are trading at their widest discount in two decades. And there is no guarantee that they will ever return to parity, a fact that has squelched the popularity of CEFs to all but their most adamant followers.

As opposed to the discount dilemma common to CEFs, ETFs trade at or extremely close to their net asset value almost all of the time. The reason? ETFs have a built-in mechanism for ensuring that the fund and the underlying index track each other very closely.

Similar to CEFs, ETFs begin their life with a fixed number of shares. Like CEFs, most investors in exchange traded funds buy and sell shares on an exchange. As opposed to investor money flowing in and out as investors buy and sell shares, like a traditional mutual funds, CEFs and ETFs are exchange-traded. Shares flow from buyer to seller without effecting the underlying portfolio. The price of an exchange-traded fund partially reflects the share's reception in the marketplace.

But unlike CEFs, ETFs have a nifty feature that ensures that its NAV is always close to its trading level. Institutional investors have the option of creating new ETF shares by delivering stock in return for fund shares. This is called a PIK (payment in kind), and is only allowed in 50,000-share blocks. Although most individual investors will never participate in a PIK transaction, this feature of ETFs allows large investors the opportunity to arbitrage any substantial price differences between the fund's NAV and share price until the difference goes away.

How are ETFs structured?

Exchange traded funds actually encompass two distinct types of investments. The popular Standard and Poor's Depository Receipts (nicknamed 'Spiders') is organized as a unit investment trust, as is the ETF based on the Nasdaq 100 index. Both of the funds are managed by State Street Securities. World Equity Benchmark Shares (or WEBS), which are managed by Barclays Fund Investors, are structured as mutual funds. Although both types of ETFs trade exactly the same, there are some differences in the way dividend income is treated. UITs typically hold cash dividends a non interest-bearing account and pay them out quarterly to unit holders. Since WEBs and other ETF mutual funds are able to reinvest the dividends as they are accrued, they may be a better bet for long-term investors.

Although ETFs have been around since the 1993 birth of the Spider, the popularity of indexing and the advent of lower brokerage commissions have put the funds in the spotlight. ETFs often account for over 75 percent of all trading on the American Stock Exchange. ETFs track everything from domestic stock exchanges to Internet issues to real estate operating companies.

As a result, over 60 ETFs are currently offered with at least that many more on the drawing board. Even index pioneer Vanguard is cashing in on the popularity of ETFs. And at least six firms are slated to offer actively managed ETFs in the next year, although portfolio transparency issues must be resolved beforehand.

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EXHIBIT H

THE FUTURE OF
EXCHANGE TRADED FUNDS

AN EMERGING ALTERNATIVE TO MUTUAL FUNDS

FRC
SHARPEN YOUR EDGE

Publication date: May 31, 2000

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As a senior member of FRC, Gavin overseas the research and writing of comprehensive primary source studies related to a wide variety of mutual fund industry topics. Gavin also serves as a senior consultant, helping clients to design and implement a broad range of strategic initiatives.

Gavin joined FRC in January 2000 from Quill Consulting where he specialized in strategic planning and product marketing issues for financial services companies. Before he founded Quill Consulting, Gavin spent thirteen years at Scudder Kemper Investments where he served as Vice President of Marketing, VP of U.S. Funds New Business Development & VP of Global Cross Business Development. During his Scudder tenure, Gavin was involved with a variety of disciplines ranging from performance analytics and product development, to competitive analysis and industry trend forecasting.

During his tenure at Scudder, Gavin helped to found the Industry Statistics Committee of the Investment Company Institute (ICI) in 1990, and served as the committee's chairman from 1992-1995. He also served as a member of the Institutes' Research Committee and its Marketing Policy Committee, where in 1993 and 1994 he lobbied Congress on behalf of the mutual fund industry in an effort to encourage regulatory reform.

Gavin's financial and economic commentary has been regularly cited by major media across the full spectrum of the financial press (both print and broadcasting), general interest newspapers, and industry trade publications. Mr. Quill has a Bachelor of Arts degree in Government with a specialization in Political Philosophy from Harvard University, and holds NASD Series 6 and 63 securities licenses. Mr. Quill can be reached at 617-557-3393 or gquill@frcnet.com

Ken Zurbrigg
Vice President, Marketing Communications
Funds Distributor Inc.

Ken is responsible for the development and implementation of effective sales and marketing communications programs for FDI's clients, as well as being a key internal resource for the other members of the FDI Communications team. Ken is also responsible for managing and directing FDI's Shareholder Communications and Simplified Prospectus businesses, as well as providing support to members of the senior management team in the development and implementation of corporate strategic initiatives. Ken also provides support to FDI's sister company, **Financial Research Corporation**, in the research and writing of primary source research studies.

Immediately prior to assuming his role in the Communications group, Ken was Vice President, Marketing Services and was responsible for managing the World Equity Benchmark Shares (WEBS) account. In this capacity, he was responsible for key activities related to the promotion and growth of this new Exchange Traded Fund including product management and marketing; client relationship management with Morgan Stanley, Barclays Global Fund Advisors, PFPC, and the AMEX; and new product development.

Before joining FDI, Ken was head of the Marketing Services Division at Guardian Group of Funds in Toronto, and had previously been General Manager of the Private Banking Division of C.I.B.C., Canada's second largest bank.

Ken is a graduate of the University of Western Ontario where he received his Bachelor of Arts degree in Economics. He holds his NASD Series 7, 24 and 63 licenses and has more than 25 years of experience in the financial services industry.

Erik Liik
Senior Vice President - Exchange Traded Funds (ETF) Specialist
Funds Distributor Inc.

As an ETF Specialist, Erik acts as the firm's senior liaison officer with various ETF market constituents such as Sponsors, Exchanges, Specialist firms and Index providers. Additionally, Erik conducts ETF market analysis and provides various levels of consulting to both current and potential ETF sponsors.

Prior to assuming this position Erik was a key member of the FDI team that launched **WEBS (World Equity Benchmark Shares)**. He subsequently served as National Sales Director for WEBS. WEBS are 17 country specific ETF's that seek to track the price and yield performance of their respective Morgan Stanley Capital International (MSCI) Index and are listed and traded on the American Stock Exchange.

Erik has over 20 years of experience in the investment management industry encompassing asset management distribution consulting, sales/sales management, new product development, and performance measurement and manager search.

Before joining FDI, Erik had been Vice President and National Sales Director for Bank Julius Baer's mutual fund complex, and had previously been a Strategic Planning Consultant and Vice President of Sales for Financial Trading Systems for Union Bank of Switzerland.

Erik is a frequent guest on many TV and Radio financial programs, as well as a speaker at various investment conferences and seminars that focus on asset management distribution and ETF's. He is a NASD Series 7 and 63 licensed representative.

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Funds Distributor Inc.

Funds Distributor connects today's investment managers with tomorrow's marketplace. For nearly twenty five years, Funds Distributor has helped some of the nation's best money managers connect with their markets — shaping and creating links between the investment manager and a universe of gatekeepers, financial intermediaries, regulators and, ultimately, investors.

This experience, combined with our innovative approach, allows us to offer an expert blend of services. From integrated sales and marketing programs to distribution financing; from market research and distribution channel analysis to legal services, we bring together the most knowledgeable people in the mutual fund distribution business to bring your products to market.

FDI was an integral part of the group of companies that successfully launched the World Equity Benchmark Shares (WEBS) product. FDI provided external and internal sales, sales management and marketing expertise, as well as inbound and outbound tele-servicing to successfully position this new international ETF product in the broker/dealer and financial advisor distribution channels.

Financial Research Corporation

Financial Research Corporation is the premier provider of competitive market research and analytic services to the mutual fund industry. For fourteen years, FRC has responded to the needs of sales, marketing, product development and strategic planning professionals with comprehensive, accurate and timely market intelligence. We also provide the tools to help clients effectively utilize this information to build more profitable marketing programs.

Competition in the fund industry has become increasingly intense and change is taking place more rapidly than ever. Just keeping pace with the explosion of new products, pricing options, distribution channels and competitors has become a costly and time-consuming effort. That's why FRC has developed unique and innovative products that are tailored specifically to digest and interpret these important trends so that sales and marketing professionals can stay ahead of them.

- FRC was the *first* firm to offer a mutual fund database specifically designed for in-house use by the marketing professional. Today this database, the **ACCESS/FRC** system, remains the most comprehensive available, combining the resources of Standard & Poor's Micropal, Morningstar, and the ICI.
- Complementing the database is the **Market Analyst** report. This hardcopy quarterly provides a complete update on the fund marketplace including unique in-depth profiles of leading fund distributors — an analysis unavailable from any other source.
- For the most insightful examination of the latest industry trends, the **FRC Monitor** offers a monthly executive review. With its concise but thorough analysis, the **FRC Monitor** is an effective way for the time-pressed fund executive to stay informed.

- In addition to database products and subscription reports, FRC provides a full range of **Consulting Services** covering issues from product development to strategic positioning. These services draw on FRC's substantial information resources, as well as our years of experience in working closely with senior marketing professionals across the industry.

FRC provides its services to more than 100 leading fund distributors, banks, industry consultants and service organizations, including firms representing all fund distribution channels. We are proud of our past success and our reputation, and we remain committed to providing our growing list of clients with information and services of the highest quality that will keep them well positioned for growth in the mutual fund industry.

Market Facts, Inc.

Since 1946, Market Facts, Inc. has provided survey and market research to thousands of users of survey-based consulting, information and analysis. The company is one of the largest full-service survey/market research firms headquartered in the U.S., conducting hundreds of custom studies each year for a broad spectrum of organizations including major corporations, government agencies, communications media, advertising agencies and public relations firms, educational and research institutes, philanthropies, labor unions, and industry and professional associations. In the private sector, regular clients include a majority of companies in the Fortune 100 and many of the nation's leading advertisers.

Ranked by total revenue, Market Facts is among the top dozen survey/market research organizations in the U.S. and among the top 20 in the world, having provided over $150 million in research services to its clients in 1999.

Market Facts has client service offices in fifteen locations in the U.S. and Canada. The firm offers a full range of survey-related services: research design consulting, multiple varieties of survey data collection, and statistical analysis. We are equipped to handle large telephone, mail and field surveys. We also have an expert professional staff to advise clients about the best survey procedures to use, as well as comprehensive resources for accurate data processing, advanced statistical analysis, and insightful interpretation of survey results. All of the facilities, equipment, and human resources (professional, managerial, technical, and clerical support personnel) required to complete most types of survey projects are available in-house. Market Facts is headquartered in Arlington Heights, Illinois. The company's major data collection and data processing facilities are also located in Arlington Heights and in other nearby suburbs of Chicago.

Market Facts' Financial Services Practice (FSP) incorporates the premier research capabilities for which we are known world wide; the experience we have gained in conducting research studies for leading financial institutions; and the acumen and insight of our financial associates. The Financial Services Practice specializes in brand equity, customer retention, segmentation, and advertising tracking research. In addition, FSP applies distinctive tools in researching specialized populations such as high net worth individuals and Internet users.

Carter, Ledyard & Milburn

Carter, Ledyard & Milburn's investment management practice includes representation of: exchange traded investment companies, mutual funds and unit investment trusts, their sponsors, advisors,

underwriters and trustees; advisors of foreign and domestic private investment funds and investors; venture capital sponsors and investors; foreign and domestic issuers seeking to avoid U.S. investment company status, and bank trust investment departments. Founded in 1854, the firm provides to its international and domestic clients a full range of services in a broad variety of practice areas including: banking, bankruptcy, corporate, e-commerce, employment law, environmental, ERISA, food/drug/medical devices, intellectual property, litigation, maritime, mergers and acquisitions, media/technology, real estate, securities, tax, tax-exempt organizations, telecommunications and trusts and estates.

TABLE OF CONTENTS

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TABLE OF CONTENTS (CON'T.)

KEY STUDY FINDINGS

This study covers such a wide range of issues from such a broad variety of perspectives that it is impossible to cite just four or five key findings. It would do an injustice to the value of the research to attempt to boil things down to a bite size list, since what would be left off would be nearly as critical to the reader as what was included.

Therefore, we will include the most significant results from each of the chapters involving primary source research. To facilitate referencing, the key findings are listed sequentially in the order in which they are discussed within each chapter.

CHAPTER THREE (A Legal Expert's View)

1. **Historically, the market prices of ETF units/shares have tracked very closely to their NAV** (i.e., they have traded with very little premium or discount to their NAV). For example, the average deviation between the daily closing price and the daily NAV of SPDRs was minus 0.0167% (i.e., a discount of 0.0167%) for the period from the commencement of SPDR trading on January 29, 1993 through February 29, 2000.
2. **The legal and regulatory requirements of ETFs are distinctly different from mutual funds** or individual securities in numerous ways. This makes the filing process far more difficult, such that it may require specialized legal expertise in order to successfully navigate.
3. **Petitioning the SEC for exemptive relief is a very time consuming process, normally requiring from six to twenty-four months**. To date, the SEC continues to evaluate each application on a detailed case-by-case basis whether or not they may already have reviewed the issues and passed approval for "identical" applications in the past. They have yet to issue any form of blanket or universally applicable exemptions or suggested any language or structural or procedural preferences that could be used to speed up the process or make it more predictable.

CHAPTER FOUR (Insights from the Experts)

1. **Are Index-based (IB) exchange traded funds a significant challenge to index mutual funds?** Our experts agreed almost universally that they **already are** (85%). The remaining 15% believed that they would emerge as a meaningful challenge within the next three years. 70% expect that they are likely to take substantial market share away from index funds.
2. **What existing businesses will be most challenged by the future growth of index-based ETFs?** Expectations here are that **retail fund managers**, particularly those with heavy index fund exposure, will face the greatest challenge. **Directly marketed funds** were seen as being more vulnerable than their broker sold counterparts. ETFs will potentially be one more nail in the coffin of those mutual **funds that consistently under-perform**, and those that carry **distinctly higher** than average **expense ratios**.
3. **What will be the greatest obstacle to the future success of ETFs?** Looking just at index-based products, 62% of experts consider **regulatory delays** to be the greatest obstacle. 38% consider ETF **profitability** to be a substantial hindrance. Finally, these experts expect that there will be an **educational** challenge that will retard early adoption of ETFs by the broad investing public.

4. **Which fund companies will offering ETFs make sense for?** The experts look for a clear **barbell structure** to develop. Only the largest players, with their deep pockets, and a few niche ETF specialists, with their focus and agility, will ultimately be able to achieve sustainable profitability with ETFs on a stand-alone basis.

5. **How fast will ETFs grow?** Experts expect that the current success of index-based ETFs will continue for at least the next several years, with **30% to 50% average annual growth rates** over the next one, three and five year periods. This would cause the ETF **share** of total indexed fund assets to **more than triple from today's 8% to as much as 27% in five years**. The average prediction for assets in **five years** was **$201 billion**. The **most optimistic** forecast sees ETF assets reaching as high as **$500 billion**.

6. **How important is the brand recognition of the underlying index to the success of an index-based ETF?** The overwhelming response here was that building an ETF around an established, recognized, independently maintained index was extremely important. Only the big, familiar names will carry much weight. This means that creating your own proprietary indices in order to build your brand and save on licensing fees will be a difficult business proposition.

7. **Will actively managed ETFs be a significant challenge to actively managed mutual funds?** One-third of the experts believe that they will within three years, while two-thirds believe that they probably will not be. **Collectively, they do not see a major threat any time in the near future.**

8. **We would be wise to discount the rhetoric we hear from some quarters intimating that ETFs could render mutual funds obsolete**. There is plenty of room to be suitably impressed by the revolutionary potential of ETFs and still recognize the size, scope, stability and flexibility of the mutual fund industry and its historical track record of innovation and adaptability.

9. **When should we expect to see the first actively managed ETFs? Not for a while**. 31% said that they don't even see the need to create them. Another 31% said we will have to wait until 2002, while 23% believe it could be as "early" as the second half of 2001. Only one expert thinks it could happen within a year.

10. **How large could actively managed funds grow in dollar terms?** The average forecast was for assets to grow sharply in **the first year** to **$58 billion**, and then slow their growth trend somewhat to bring assets up to **$244 billion after five years**. The highest estimate here was $500 billion, exactly the same as the high estimate on the index-based side.

11. **What is the possibility of fixed-income ETFs being created?** Half of our experts believe that the first fixed income ETF will be created within one year, while the other half believed it would be accomplished within three years.

<u>CHAPTER FIVE (Voice of the Investment Professional — Brokers & Planners)</u>

1. **What percent of their clients use ETFs?** The average early adopting broker is currently using ETFs in 18% of his/her clients' **portfolios**, while allocating **11%** of their clients' total **assets** to these vehicles.

2. **Do brokers use ETFs purely as trading vehicles or as part of a longer-term buy and hold strategy?** Not one respondent indicated that the primary application for these products was to facilitate trading strategies. **Fifty-five percent** said their main reason for buying them was primarily for **long-term buy and hold** purposes. The other forty-five percent said they used ETFs for a roughly even mix between trading and buy and hold.

3. **If these brokers and their clients were not using ETFs, what vehicles would they allocate these assets to? Thirty-four percent said actively managed funds.** This was the highest response and it clearly illustrates how these index-based products are already competing not just with index mutual funds, but with actively managed equity funds as well. **Individual securities** were mentioned by **31%** of brokers as the primary source of funds for ETF purchases. This is an often over looked reality: that ETFs are just as likely to take business away from individual stocks as they are to take it from stock funds. **Index funds** were mentioned as the primary targets for redistribution by **24%** of brokers.

4. **How satisfactory is the compensation available from the sale of ETFs? Could it deter brokers from using these products?** Forty-five percent said the compensation was sufficient and that it would not be a deterrent to recommending ETFs over other products. However, **fifty-five percent** said that the compensation available was anywhere from somewhat low to very low and that this would range from being a **small to a significant deterrent**.

5. **If brokers were to purchase actively managed ETFs what other investments would they replace or forgo? Forty-seven percent** said primarily **individual securities**, while 20% said a mix of funds and securities. Only 19% would primarily reallocate assets from mutual funds.

<u>CHAPTER SIX (Voice of the Retail Customer)</u>

1. **What are the most compelling benefits offered by ETFs?** Among the **active inquirers** two benefits stood out as being particularly compelling: first, **lower expense ratios** and second, **tax efficiency**.

2. **Will active inquirers eventually buy an ETF? Sixty-nine percent** responded that they were either **very or extremely interested**.

3. **Will retail ETF purchasers buy again? Fifty percent** said that they were either **very or extremely interested**, while 25% were somewhat interested.

4. **How are retail early adopters most likely to finance their ETF purchases? Sixty percent** of respondents indicated that they would sell, or forgo purchasing, **individual stocks**.

5. **What percent of their assets have retail purchasers allocated to ETFs?** As expected, the amount is rather small so far. Three quarters of ETF purchasers have placed less than ten percent of their portfolio into these instruments, while the other quarter have allocated less than twenty percent. **The average percentage across all respondents was 8%.**

6. **Do retail customers use ETFs purely as trading vehicles or as part of a longer-term buy and hold strategy? Seventy-five percent** of our retail users/inquirers said their intention is to use these products **primarily for buy and hold purposes**, while the remaining 25% said they would use them for a mix of both long term and trading oriented strategies.

<u>CHAPTER SEVEN (Voice of the "Prospect" Population)</u>

1. **Forty-one percent of the investing public is at least moderately familiar with exchange traded funds.** This is an impressive level of awareness for this early stage in their development, and in light of the very limited promotional effort behind them to date.

2. **Forty-seven percent of respondents indicated some level of interest in purchasing ETFs.** This is also a very high figure at this early stage. If ETFs can deliver on their promises and effectively communicate their benefits to investors, they will find plenty of potential interest in these products.

3. **ETFs are more likely to take business away from individual securities than mutual funds**. This runs contrary to some of the exaggerated "death of the fund industry" stories we see written from time to time.

4. **Index-based ETFs are nearly as likely to take money away from actively managed mutual funds as they are from index funds**. They are drawing some investors over to the other side of the great active/passive divide, not because people are becoming more committed to the philosophy of indexing, but because of the full package of other benefits which ETFs are now wrapping around index-based structures.

5. **The higher the level of investable assets, the greater the familiarity with ETFs.** This is consistent with market research in other areas which shows that affluent consumers, because they can afford more products and services and are therefore more heavily courted, tend to have much higher awareness levels of a broad variety of financial and non-financial products.

6. **Tax efficiency and flexibility, trading flexibility and lower expense ratios compared with mutual funds were the most appealing features of ETFs across the entire sample group**. Continuous pricing throughout the trading day was not considered to be a very important feature, even though that is the one that is most often mentioned in the financial press.

7. **Respondents who have brokerage accounts are more attracted to every one of the key features of ETFs than are those who do not**. They also indicate a greater likelihood of actually purchasing ETFs in the future.

8. **Internet brokerage customers are particularly passionate about ETF benefits**. They are far more likely than the average investor to consider purchasing them. **Sixty-nine percent** expressed at least some purchase interest.

EXCHANGE TRADED FUNDS: MYTHS AND MISUNDERSTANDINGS

As the number and popularity of exchange traded funds has increased over the past couple of years, a number of myths and misunderstandings have arisen among investors. The most common of these are listed below with a rebuttal for each.

1. ETFs are Closed-End Funds.
This has been a common misconception among investors since ETFs were first introduced. ETFs are not closed-end funds. By closed-end, we mean a fund that issues a finite number of shares. All of the current ETFs are index-linked and are structured as **open end investment management companies** (i.e., they continuously issue new and redeem existing shares). Because ETFs continuously issue new shares, investors are not subject to the potential liquidity issues encountered by closed-end funds.

2. ETFs are derivatives and, therefore, risky.
Technically, ETFs are "derivatives" in as much as they derive their performance from the performance of an underlying basket of individual securities. They do **not**, however, carry **any greater level of risk than would be assumed by purchasing each of the securities that comprise the underlying basket**. If anything, they are less risky, since an investor can sell the entire basket with one trade. For the most part, ETFs do not invest in derivative products that are commonly thought to carry a higher level of risk, such as options and futures.

3. ETFs use leverage.
The current universe of index-linked ETFs **does not use leverage** to enhance returns.

4. Only institutional investors use ETFs.
While the original target market was the institutional investor, the reality is that **many different retail segments also use ETFs** for a variety of purposes. The level of ETF ownership by retail investors continues to grow, as more investors learn about ETFs and understand how to use them in their portfolios.

5. ETFs are only applicable for short-term trading investment strategies.
In reality **ETFs can be used in a buy and hold investment strategy**, a tactical asset allocation program or as a trading vehicle. Since all current ETFs are linked to an underlying equity index, a buy and hold investor may opt to purchase shares of an ETF instead of shares of an index-based mutual fund. In an asset allocation program, ETFs can be used to enhance the returns of other investments by over-weighting particular sectors or markets. For the active trader, ETFs represent a way to take a position in entire markets with a single, cost-effective trade.

6. ETFs are primarily a threat to mutual funds and other pooled investment vehicles.
Actually ETFs are **more likely to redistribute business from individual securities** than they are from mutual funds. The brokers and planners we interviewed were roughly equally likely to fund ETF purchases from either funds or securities, while both groups of retail investors we surveyed were more likely to convert stock holdings than to liquidate mutual funds.

7. The main selling point for ETFs is their continuous pricing which enables trading at any time.
In reality, both current and potential retail ETF investors rate **continuous pricing as the least important feature** that these innovative products have to offer. Twice as many name tax efficiency, tax flexibility and low expense ratios as being the primary reason for their actual or potential purchase decision.

EXECUTIVE SUMMARY

Exchange Traded Funds: A Revolution on the Horizon?

INTRODUCTION

Index-based ETFs have exploded in popularity over the past year, and product development in this emerging area has kicked into high gear at several major institutions. **Some are claiming that these products represent a fundamental challenge to the traditional mutual fund industry**. How big is the threat? What distribution channels and asset classes are most vulnerable? How can asset managers and distributors participate in the growth of this innovative class of products? What types of firms are best positioned to benefit?

This research study provides answers to these questions and much more. It begins by laying a solid foundation in the form of a **basic primer** that reviews the **history** and **mechanics** of exchange traded funds within the United States. It provides an overview of their **structure** and **method of operation**, and discusses the important features and benefits that distinguish them from competing products such as open- and closed-end mutual funds. Also included are an in-depth analysis of **potential demand** and **target markets** as well as a look at the early leaders in ETF product development, and expected changes to the competitive landscape in the near future.

This **forward-looking** document includes expectations and forecasts based on **in-depth interviews** and surveys of pioneers and **institutional experts** in the field, supplemented by the views of **brokers** and **planners** that are actively using ETFs in their client portfolios. We also explore the attitudes and practices of **retail "early adopters"** that have either purchased an ETF or have actively inquired about them. Finally, we delve into the opinions of more than **800 general retail investors** that represent the future potential demand for the ETF industry.

This **primary source research** serves as the foundation for forecasts concerning future product development and expected growth rates for various ETF product types, and for an assessment of the potential threats and opportunities that ETF's will create for various financial institutions over the next several years.

ETF HISTORY, STRUCTURE & MECHANICS

Although SPDRs have been around since 1993, they did not really gain acceptance until the S&P 500 Index began its long string of outstanding performance in the mid to late 1990's. Since then, the number of ETFs, shares outstanding and market value of ETFs has virtually exploded. Today, ETF products rank among the most actively traded issues on the American Stock Exchange on a regular basis. The table opposite provides a brief overview of the growth of a number of ETF vehicles.

Growth of Exchange Traded Funds

	Shares (millions) 1/20/99	Shares (millions) 4/20/00	% Change	Market Value (millions) 1/20/99	Market Value (millions) 4/20/00	% Change
SPDRs	86.0	117.2	36.3	$10,817	$16,756	54.9
MidCap SPDRs	19.3	28.3	46.6	1,396	2,396	71.6
DIAMONDS	5.0	18.7	274.0	467	1,997	327.6
Sector SPDRs (9)	21.0	79.2	277.1	614	2,730	344.6
WEBS (17)	98.4	135.5	34.2	1,070	1,956	82.8
Nasdaq-100	N/A	120.5	N/R	N/A*	10,778	N/R
Totals				$14,364	$36,613	154.9

**Inception date of Nasdaq-100 was 3/10/99*

If we include the assets of the nine **HOLDRs** (approximately **$12 billion** as of 3/31/00), total assets in all ETF and ETF-like products is about $48.6 billion. Even as we go to press, Barclays is in the midst of a substantial roll-out of new products, with the first four in the series attracting $1.2 Billion in just the first two days of trading.

How Exchange Traded Funds Work

ETFs were **originally designed by institutional investors for institutional investors** as a way to get around the discount/premium issues that are inherent with closed-end funds. Because closed-end funds issue a finite number of shares, when an investor wishes to buy or sell shares of the issuing company they must do so in the secondary market (like any other stock). When supply and demand get out of balance (i.e., when there are more sellers than buyers or vice versa) their share values can, and do, trade at significant discounts or premiums to their book value (NAV).

The ETF structure alleviates this problem in two ways. First, ETFs can **continuously issue new shares or redeem existing shares**, thereby providing needed liquidity for both buy and sell sides of the market. Secondly, their structure and method of operation **allows institutional investors to arbitrage** in any discounts or premiums that may arise.

Tax Treatment

All exchange traded funds are structured so they qualify for favorable tax treatment under the U.S. Tax Code. **Like traditional open-end mutual funds, they avoid any tax liability by paying out at least 90% of all income received, and net capital gains realized, to shareholders annually**. Where they differ significantly from open-end funds is in the way they handle redemption requests to take advantage of certain tax-efficiency rules permitted under the Tax Code.

An ETF can only satisfy redemption requests by transfers in-kind i.e., by transferring the underlying securities to the investor. Because of this in-kind requirement, **the ETF has the luxury of being able to identify which securities it will transfer to the investor. It can, therefore, choose to transfer those with the lowest cost base and effectively eliminate any unrealized tax liability**. This ability to pick and choose securities makes the ETF substantially more tax efficient than the traditional mutual fund.

Unique Selling Features vs. Index Mutual Funds

Being a **hybrid product**, ETFs provide investors with the same level of diversification one would find in an index-based mutual fund, as well as a number of additional features that normally pertain only to stocks. For instance, they offer continuous pricing throughout the day; they can be bought on margin, can be sold short even on a down tick, and can be used for hedging purposes.

The International Arena

Substantial product development efforts are underway in many overseas markets. These include: **Canada** (iUnits S&P/TSE 60 Participation Fund from Barclays), **Hong Kong** (TraHK fund from State Street Global Advisors), **Germany** (LDRS ("Leaders") from Merrill Lynch), and the **United Kingdom** (iFTSE100 from Barclays), with Australia already active, and Sweden & France in the process of preparing for ETFs.

The SEC Waiting Game

One of the biggest obstacles to bringing an exchange traded fund to market is navigating a very **complicated and drawn out regulatory approval process**. The following table provides a glimpse into this frustrating process and shows just how long it can take.

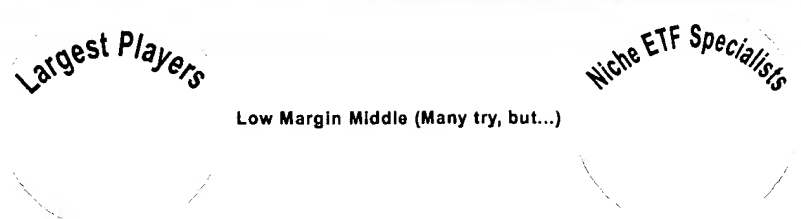
Milestones for SEC Approval

	Application first filed	Application Amended	Notice Published	Commission Review	Order Granted	Elapsed Time
SPDRs	6/25/90	Four times	9/17/92	Yes	10/26/92	28 months
MidCap SPDRs	5/28/93	Two times	12/23/94	Yes	1/18/95	20 months
DIAMONDS	6/17/97	One time	12/5/97	No	12/30/97	6 months
Country Baskets	8/19/94	Five times	2/6/96	Yes	3/5/96	19 months
WEBS	9/19/94	Four times	2/6/96	No	3/6/96	18 months
Sector SPDRs	5/13/97	Two times	10/20/98	No	11/13/98	18 months
QUBES	8/19/98	One time	1/27/99	No	2/22/99	6 months
iShares	4/30/99	Two times	4/17/2000	No	5/12/2000	12.5 months

INTERVIEW RESULTS

1. **By 2007, our expert forecasts predict that total ETF assets (index-based + actively managed) will range from $445 billion to $1 trillion.**
2. The ETF experts we interviewed believe that the ETF industry will ultimately fall into a **barbell shape** with a number of very large and a number of niche ETF specialists.

Who Will Succeed?



3. Most of these experts do not expect to see the introduction of **actively managed** ETFs until at least **2002**.

4. Brokers and planners that actually use index-based ETFs today, indicate that if actively managed ETFs are introduced, they will **reallocate assets primarily from individual securities, not mutual funds**.

5. **Retail investors** indicate that they also would sell or **forgo individual stocks more often** than they would liquidate mutual funds in order to fund their ETF purchases.

6. Investors use ETFs **primarily as part of a longer-term buy and hold strategy**, not as trading vehicles. There is unanimity between all three of our investor groups (brokers/planners, retail users and general investors), with all three weighing in against the myth that ETFs are primarily tools for active traders. **Seventy-five percent of our retail users**/inquirers said their intention is to use these products **primarily for buy and hold purposes**, while the remaining 25% said they would use them for a mix of both long term and trading oriented strategies.

FRC's PERSPECTIVE

FRC expects that index-based ETF assets will continue their recent dramatic growth rate for many years to come. Indeed, **we believe that ETF's may turn out to be the most significant new product category of this new decade**. But that does not mean that mutual funds will be disappearing any time soon, or that the overall viability of fund management companies is in any sense problematic.

Are index-based ETFs a threat to fund companies? That **depends on the attitude of the company and how it defines itself**. If a firm looks at itself as only being in the business of managing and/or distributing traditional open-end funds, and does not have a vision for expanding beyond that narrow definition, then the growth of ETF's is most definitely a threat to their franchise, as is the growth of separate accounts and other vehicles that compete with traditional funds. However, if a company sees itself in broader terms, as a manager/distributor of pooled investment vehicles, then **ETF's do not need to be feared or fought, but rather embraced as a logical extension of their business and a mechanism to bring their asset management expertise to a new audience**.

The greatest threat to a fund company from index-based ETF's is not necessarily to its assets, but to its margins. Assets can potentially be retained by offering one's own ETF's, but if this is successful, it will lead to substantial margin erosion for those assets that are converted from traditional high fee funds. The expense differences are dramatic. Most ETF's charge less than half the average of comparable index funds, and from one third to one fifth of actively managed funds. State Street recently dropped the fee on its popular SPDRs to only 12 bp; Barclays' new S&P 500 Index-linked product has lowered the bar to 9 basis points.

Index-based ETFs should be looked at as an **opportunity to bring individual security buyers back into the world of pooled vehicles** and to re-capture the wallet share that has been lost over the past couple of years to the discount and on-line brokerages.

Until actively managed ETF's can be created, ETF's will **primarily draw business away from individual stocks, index funds, closed end funds, UITs and sector funds**. While they have already begun to take some business away from actively managed funds, the dollar amounts relative to total actively managed assets are still quite small. Those fund companies that don't have significant exposure to these more vulnerable areas have little short-term reason to fear cannibalization, but rather they have an opportunity to take business away from the large players in these product types.

Actively managed ETFs have yet to be filed with the SEC **because nobody has yet been able to figure out how to create one**. Indeed, most financial professionals find it hard to conceptualize how such an instrument might be constructed even in theory.

Of course, **even if the conceptual and technical issues can be worked out, there are very distinct regulatory hurdles that will then have to be faced**. Paul Roye, the director of the SEC Division of Investment Management, has already expressed pre-emptive concerns about actively managed ETFs from both a technical and a policy perspective.

Nearly all of the experts we interviewed believe that index-based ETFs are a significant challenge to traditional index mutual funds, but **only one-third saw actively managed ETFs as a significant challenge to traditional actively managed mutual funds**. Those that did believe that the actively managed version would emerge as a meaningful challenge, however, **did not see it happening for at least two more years**.

Expectations for index-based ETF asset growth over the next one, three, and five years are very similar to those for actively managed ETF growth over the same periods, beginning with the introduction of the first products in this new class (still two years away). This means that **ETFs are currently expected to have a much larger percentage impact on traditional index funds than upon traditional actively managed funds**.

Over the next five years, our panel of experts forecast asset growth for **index-based ETFs** will accelerate moderately in terms of total dollars, but will slow in percentage terms to a range of 30%-50% per year. The average projection calls for assets of **$201 billion in five years** time, though estimates ranged **as high as $500 billion**. Consensus figures call for index-based ETFs to capture 27% of total index fund assets by 2005, compared to just 8% today.

If actively managed ETF products can ultimately be brought to market by 2002, the average expectation is for assets to grow rapidly during the **first year to $58 billion**. Early adopters will fuel this growth, transferring assets from individual equity holdings, a pool of as much as $10 trillion in assets by 2002, and equity fund holdings, a pool of about $4 trillion (household assets only—institutions excluded).

After that, the challenge of educating the majority of investors will take over, causing growth rates to fall to the range of 30%-50% annually, and bringing total actively managed ETF assets to **$244 billion five years out in 2007**. Here again, estimates ranged **as high as $500 billion**.

FRC believes that over time both classes of ETFs will become substantial competitors to traditional mutual funds and other investment products. This does not however mean that they are necessarily a threat to traditional asset management companies. Rather, **we view ETFs as a logical extension of what the fund industry already offers**. This is just another significant innovative step in the evolution of an industry that has consistently shown flexibility and a **willingness to transform itself over time** in order to continue to meet the changing needs of the investing public.

On the index-based side, the competitive trend is well underway. If a company sees indexed products as a meaningful component of its business strategy, then the time to begin product development efforts in this area is now. However, **those firms that are committed to an exclusively actively managed approach may still have a window of time to monitor developments** before they need to actively pursue their own development plans.

Firms that want to exercise market leadership should **consider beginning an active research effort now in preparation for ETF development down the road**. This is true even if firms don't see themselves as indexers. There is a big learning curve that must be worked through with these products. Their creation is far more complicated than anything most product development departments have had to deal with in the past.

It would be **wise for firms to "incubate" a knowledge base** about how these products are constructed. Begin now with even a single index fund, and then migrate up to an enhanced index fund as the technical difficulties with this are worked out (expected by year-end).

We also recommend that you refer to the following sections of this Study for further insights on some of the issues we have uncovered in our research: *Key Study Findings; Exchange Traded Funds: Myths and Misunderstandings; and Frequently Asked Questions (Chapter Ten).*

INTRODUCTION

This research paper provides a **history** of the development of Exchange Traded Funds (ETFs) within the United States - investment vehicles with monikers such as SPDRs, DIAMONDS, HOLDRs, QUBES and WEBS. It also provides an overview of their **structure** and **method of operation**, and discusses the important features and benefits that distinguish them from competing products such as open- and closed-end mutual funds. Also included are in-depth analyses of **potential demand and target markets**, a look at the **early leaders** in ETF product development, and **expected changes** to the competitive landscape in the near future.

This forward-looking document includes expectations and forecasts based on **in-depth interviews** and surveys of pioneers and **institutional experts** in the field, supplemented by the views of **brokers and planners** who are leading the way in employing ETF solutions in their client portfolios. In addition to these professionals, we have also surveyed pioneering retail investors or **early adopters** who are either actively investigating ETFs or have already purchased them. Finally, we surveyed more than **800 general retail investors or prospects** to see where the next wave of ETF demand may emerge from. This primary source research serves as the foundation for forecasts concerning **future product development** and **expected growth rates** for various ETF product types, and for an assessment of the potential **threats** and **opportunities** that ETFs will create for various financial institutions over the next several years.

DEFINITION

Exchange Traded Funds are hybrid investment instruments that give investors an interest in a portfolio of securities (like a mutual fund), but also give investors the flexibility of **trading the entire portfolio as a single entity** (like a stock). All ETFs on the market today have portfolios that are reflective of the portfolio of an underlying benchmark index, and generally track the performance of that index. There is, however, discussion about the possibility of introducing a more actively managed type of portfolio at some time in the future.

I HISTORY AND STRUCTURE

The most popular and oldest of the existing ETFs in the United States is the Standard & Poor's Depository Receipt®, or SPDR (pronounced 'spider') which was introduced in 1993. The origination of the concept, however, came from Professor Nils Hakansson who published a paper entitled "The Purchasing Power Fund: A New Kind of Financial Intermediary" in the 1976 November/ December issue of *Financial Analysts Journal*. The key aspects of this theoretical fund that had implications for the later development of the ETF were the fact that the underlying assets of the Purchasing Power Fund were index funds, and that the return of the Fund would be derived from the performance of the underlying asset[1].

In the 1980's, Hakansson's idea was developed further by the firm of Leland, O'Brien, Rubenstein Associates who were known for developing portfolio insurance products. They believed there might be a demand for a simplified version of the Purchasing Power Fund as a hedge product and, with the backing of a number of large institutional investors, created what they called a 'SuperTrust'.

The key to making the SuperTrust work was having an underlying index investment that could be listed on a stock exchange and could continuously offer and redeem shares (like a traditional open-end mutual fund). This was the genesis of the ETF. The only difficulty with this proposition was that the SEC had not yet authorized securities that could have both of these properties.

In the early 1990's Leland, O'Brien, Rubenstein Associates (LOR) petitioned the SEC for an exemption to the existing rules to allow it to create the ETF as envisioned in the SuperTrust (i.e., to continuously create and redeem shares and trade on the stock exchange). They had chosen the S&P 500 Index as the benchmark and called the vehicle the "Index Trust SuperUnit".

After much legal wrangling and expense, the SEC granted the requested exemption and the **SuperTrust and Index Trust SuperUnit were introduced in 1993**.

Two events subsequently coincided which made both products unmarketable: they were still **too complex to be readily understood by the marketplace**; and the market for hedge products had dried up. With few sales and little marketability, the SuperTrust was terminated in 1996.

Because the Index Trust SuperUnit was marketed as an underlying hedge product, it too suffered from a lack of demand. However, a few people saw the potential to use this type of vehicle to directly trade the S&P 500 Index as if it were a listed security.

THE AMEX CREATES SPDR®s

Taking advantage of the SEC exemption order that Leland, O'Brien, Rubenstein Associates had obtained, and recognizing an opportunity, the **AMEX**, through its subsidiary company PDR Services Corporation and with help from State Street Bank, petitioned the SEC for permission to introduce a stand-alone S&P 500 Index-based ETF. They were granted the exemption order in 1992 and the **SPDR was introduced in January 1993, structured as a unit investment trust**. State Street Bank & Trust is the Trustee. It took a while for the product to catch on with investors. It was not until the media began focusing on the outstanding performance of the S&P 500 in the mid-1990's, and the fact that most active money managers were underperforming the indexes, that investors began to really pay attention to

[1] *Special thanks to Levitt, Novakoff & Company for the historical information on the SuperTrust and the Index Trust SuperUnit. The information was obtained from their research paper entitled "Exchange Traded Funds" dated August 1999.*

the idea of index investing. Coupling this idea with the ability to trade an index like a stock seemed like the perfect match. SPDRs trade on the AMEX under the ticker "SPY".

SUBSEQUENT ENTRANTS

MidCap SPDR™s (May 1995)

Following on the success of the original large-cap SPDRs, the AMEX introduced the MidCap SPDRs in May 1995. Also a UIT, with State Street Bank & Trust as the Trustee, the MidCap SPDRs use the S&P 400 Index as their underlying benchmark. Ticker "MDY".

World Equity Benchmark Shares℠ (March 1996)

Eyeing the success of the domestic entrants and with index products in general, Morgan Stanley joined forces with Barclays Global Fund Advisors, Funds Distributor Inc., PFPC, Inc. and the AMEX in 1996 to create the only successful international entrant to date — World Equity Benchmark Shares. Morgan Stanley acts as an Authorized Participant, Barclays is the portfolio manager, FDI was the Distributor[2], and PFPC is the Administrator. Unlike the SPDRs products, WEBS were structured as an **open-end investment management company** (i.e., a mutual fund), which gives the manager (Barclays) some additional investment discretion that is not available through the UIT structure. We'll explore these structural differences and examine the pros and cons of filing as a UIT or a fund in Chapter three.

There are currently 17 WEBS trading on the AMEX covering the following countries: Australia (EWA), Austria (EWO), Belgium (EWK), Canada (EWC), France (EWQ), Germany (EWG), Hong Kong (EWH), Italy (EWI), Japan (EWJ), Malaysia (Free) (EWM), Mexico (Free) (EWW), Netherlands (EWN), Singapore (Free) (EWS), Spain (EWP), Sweden (EWD), Switzerland (EWL) and United Kingdom (EWU).

Barclays will be introducing an additional eleven international iShares in the very near future.

DIAMONDS℠ (January 1998)

DIAMONDS is a unit investment trust that contains the 30 stocks in the Dow Jones Industrial Average Index and uses this index as its benchmark. The Trustee is State Street Bank and Trust Company and the Sponsor is PDR Services LLC, a division of the AMEX. DIAMONDS trade on the AMEX under ticker "DIA".

Telebras HOLDR℠s (July 1998)

Merrill Lynch introduced this new ETF-like product, known as **Holding Company Depository Receipts**, in July 1998 to give investors a convenient vehicle for investing in all of the new entities created by the break-up of Telebras — Brazil's state-owned telephone company. Telebras was split into 12 separate, publicly traded entities. Merrill repackaged the twelve ADR's that represent each of the new entities into one instrument known as the Telebras HOLDRs. Each Telebras HOLDRs represents an investor's undivided ownership in the 12 separate American Depositary Receipts. They are the first, and so far, only ETFs that trade on the NYSE. Ticker symbol TBH.

Technically, HOLDRs are not exactly ETFs in the narrow sense, but in a broader sense they can be grouped together since they contain many of the same features and seek to meet similar investor needs.

Merrill Lynch is in a position to play multiple roles as a sector manager and ETF distributor.

2 *WEBS are now called "iShares" and the distributor is SEI Investments Distribution Company.*

Select Sector SPDR®s (December 1998)

To give investors additional investment flexibility and capitalize on the trend toward sector investing, State Street Bank and Trust Company introduced a series of nine sector SPDRs at the end of 1998. Each of the sector SPDRs uses sub-sections of the S&P 500 as its respective benchmark index. Combined, the nine sector SPDRs comprise all of the companies that make up the S&P 500 Index: Basic Industries (XLB), Consumer Services (XLV), Consumer Staples (XLP), Cyclicals/ Transportation (XLY), Energy (XLE), Financial (XLF), Industrial (XLI), Technology (XLT) and Utilities (XLU). State Street Bank and Trust is the manager of the Select Sector SPDRs. All Sector SPDRs trade on the AMEX.

Nasdaq-100® (March 1999)

Called **'QUBES'** in the industry because of their trading symbol (QQQ), the Nasdaq-100 Index is a **unit investment trust** created by the Nasdaq/AMEX that is similar in many ways to DIAMONDS. It allows an investor to "buy" the 100 stocks that currently make up the Nasdaq-100 Trust with a single trade. Here, the exchange and the index provider are the same institution.

New HOLDRs (1999/2000)

Merrill Lynch has continued to expand its offerings of these Holding Company Depository Receipts to compete with the various AMEX sector ETFs. New HOLDRs recently introduced:

Table 1: Merrill Lynch HOLDRs

HOLDRs	Month Introduced	Ticker Symbol
Internet HOLDRs	September 1999	HHH
Biotechnology HOLDRs	November 1999	BBH
Telecom HOLDRs	February 2000	TTH
Pharmaceutical HOLDRs	February 2000	PPH
B2B Internet HOLDRs	February 2000	BHH
Internet Infrastructure HOLDRs	February 2000	IIH
Internet Architecture HOLDRs	February 2000	IAH
Broadband HOLDRs	April 2000	BDH

Unlike the Telebras HOLDRs, these new HOLDRs trade on the AMEX.

MORE TO COME...

Barclays Global Fund Advisors has licensed virtually all of the well-known indexes and is planning to introduce up to 50 new ETFs, which it is dubbing *iShares*. The **first wave of these new entrants began trading on the AMEX on May 19, 2000** (these are highlighted in the entire line-up listed below):

Standard & Poor's Indexes

- S&P 100
- **S&P 500 Index**
- S&P 500/BARRA Value
- S&P 500/BARRA Growth
- S&P Midcap 400
- S&P Midcap 400/BARRA Value
- S&P Midcap 400/BARRA Growth
- S&P Small-Cap 600
- S&P Small-Cap 600/BARRA Value
- S&P Small-Cap 600/BARRA Growth
- S&P Super Composite 1500
- S&P Super Composite 1500/BARRAValue
- S&P Super Composite 1500/BARRA Growth

Dow Jones U.S. Broad Market Indexes

- Total Market
- Large Cap
- Midcap
- Small Cap

Dow Jones U.S. Broad Sector Indexes

- DJUS Basic Materials
- DJUS Consumer Cyclical
- DJUS Consumer Non-Cyclical
- DJUS Energy
- DJUS Industrial
- DJUS Technology
- DJUS Utilities

Dow Jones U.S. Industry Sector Indexes

- **DJUS Advanced Technology**
- **DJUS Internet**
- DJUS Health Care
- DJUS Real Estate
- DJUS Financial Services
- DJUS Petroleum
- DJUS Basic Utilities
- DJUS Transports
- DJUS Chemicals

Russell U.S. Equity Indexes

- **Russell 1000**
- Russell 1000 Growth
- Russell 1000 Value
- Russell 2000
- Russell 2000 Growth
- Russell 2000 Value
- Russell 3000
- Russell 3000 Growth
- Russell 3000 Value
- Russell Top 200 Index
- Russell Midcap Index

International Indexes

- S&P Euro
- S&P Euro Plus
- S&P/TSE 60
- DJ Global Media Sector
- DJ Global Pharmaceuticals Sector
- DJ Global Telecommunications Sector

Pricing on the new Barclays ETFs is aimed directly at the competition. The iShare tracking the S&P 500 Index will charge an annual fee of just 0.09% (as compared to 0.18% on the Vanguard 500 Index Fund and 0.12% for SPDRs). The iShare for the Russell 1000 will charge 0.15% annually, while the two Dow Jones Sector iShares (Internet and U.S. Technology) will each charge 0.60% per year. Barclays has also

taken one more shot at SPDRs — their new iShares are **able to reinvest dividends on a daily basis**, just like ordinary mutual funds. With SPDRs, dividends are only reinvested on a quarterly basis.

Barclays has also made application to, and received approval from, the SEC for permission to introduce eleven new WEBS (now called iShares). The new iShares will be for Brazil, Greece, Indonesia (Free), South Korea, Portugal, Taiwan, Thailand (Free), Turkey, South Africa, EMU and the United States (for Japanese investors only).

If all of these funds are eventually rolled out, this would bring **Barclays'** total iShares offerings to 28 and their **grand total of ETFs to as high as 78**. Forty-four of these would be domestic and thirty-four would be international.

State Street Global Advisors is also planning to introduce an additional **eight** ETFs in the first half of 2000. Four of these will be based on the new Dow Jones Indexes covering the large growth, large value, small growth and small value asset classes. One will be based on the Dow Jones Global Titans Index and the remaining three will be based on sectors: Wilshire REIT Index, Morgan Stanley High Tech 35 Index and the Morgan Stanley Internet Index.

Not to be left behind, the venerable ***Vanguard Group*** has also announced it will enter the ETF arena under the moniker of VIPERs (Vanguard Index Participation Equity Receipts). On May 12th, Vanguard announced it had made application to the SEC for permission to introduce an ETF class of shares on all nine of its existing index funds. Initially, however, Vanguard has said it will introduce ETFs only for five of its existing index funds — the Vanguard 500 Index fund, the Vanguard Growth Index fund, the Vanguard Total Stock Market Index fund, the Vanguard Value Index fund and the Vanguard Small Cap Index fund.

As ETFs continue to gain acceptance by institutional and retail investors alike, there will no doubt be additional products introduced in the future. As of the date this study went to press, we know of applications to the SEC by ***Salomon Smith Barney*** and the ***Voskian Funds Trust***. In addition, we understand that ***ProFunds*** and ***Rydex Funds*** have made application to introduce ETFs as a new share class for some of their existing funds. The media have also made mention of possible applications by ***Nuveen Investments***.

A recent Institute for International Research (IIR) conference on Exchange Traded Funds in New York (May 15th) attracted an overflow crowd and has prompted IIR to consider offering a follow-up conference on ETFs in the near future. Clearly there is a great deal of interest in this new investment product.

GROWTH OF EXCHANGE TRADED FUNDS

While the SPDRs were introduced in 1993, they did not really gain acceptance until the S&P 500 began its long string of outstanding performance in the mid to late 1990's. Since then, the number of shares outstanding and market value of SPDRs have virtually exploded. As of **April 20, 2000** there were approximately 117 million shares outstanding with a market value of about $16.8 billion. SPDRs rank among the AMEX's most active issues on a regular basis.

The value of SPDRs pales in comparison to the value of the assets in the S&P 500 Index mutual funds (the Vanguard 500 Index Fund alone has approximately $110 billion). It does, however, represent a 36% increase in the number of shares outstanding, and a 55% increase in market value since the beginning of 1999. During that same period the Vanguard fund grew by 36% and overall index funds by 35%. The table below provides an idea of how some of these hybrid vehicles have attracted attention in the past year.

Table 2: Growth of Exchange Traded Funds

	Shares (millions) 1/20/99	Shares (millions) 4/20/00	% Change	Market Value (millions) 1/20/99	Market Value (millions) 4/20/00	% Change
SPDRs	86.0	117.2	36.3	$10,817	$16,756	54.9
MidCap SPDRs	19.3	28.3	46.6	1,396	2,396	71.6
DIAMONDS	5.0	18.7	274.0	467	1,997	327.6
Sector SPDRs (9)	21.0	79.2	277.1	614	2,730	344.6
WEBS (17)	98.4	135.5	34.2	1,070	1,956	82.8
Nasdaq-100	N/A	120.5	N/R	N/A*	10,778	N/R
Totals				$14,364	$36,613	154.9

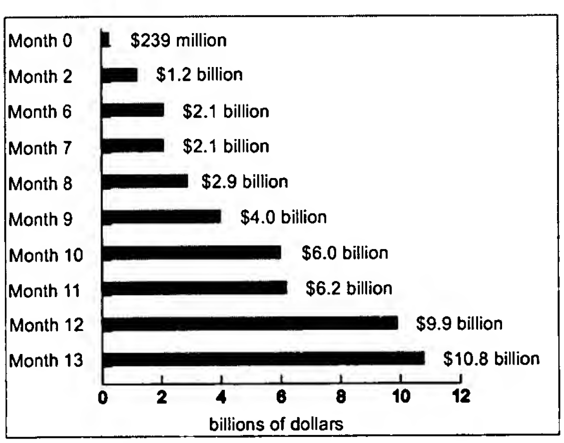
**Inception date of Nasdaq-100 was 3/10/99*

If we include the assets of the nine HOLDRs (approximately $12 billion as of 3/31/00), total assets in all ETF and ETF-like products is about $48.6 billion — a fairly impressive number for what some might call a niche product.

One of the more successful ETF introductions was the Nasdaq-100 tracking stock. Introduced on March 10, 1999, at the height of the tech boom, assets in **QUBES have grown to nearly $11 billion in just over a year** (as of April 20, 2000). This is really quite spectacular considering it took SPDRs six years to reach the same level.

EXHIBIT 1:
Growth of Nasdaq-100 Tracking Stock

Initial deposit of $239 million on March 10, 1999



HOW EXCHANGE TRADED FUNDS WORK

ETFs were **originally designed by institutional investors for institutional investors** as a way to get around the discount/premium issues that are inherent with closed-end funds. Because closed-end funds issue a finite number of shares, when an investor wishes to buy or sell shares of the issuing company they must do so in the secondary market (like any other stock). When supply and demand get out of balance (i.e., when there are more sellers than buyers or vice versa) their share values can, and do, trade at significant discounts or premiums to their book value (NAV).

The ETF structure alleviates this problem in two ways. First, ETFs can **continuously issue new shares or redeem existing shares**, thereby providing needed liquidity for both buy and sell sides of the market. Secondly, their structure and method of operation **allows institutional investors to arbitrage** in any discounts or premiums that may arise.

Creation/Redemption Process

Rather than sell their shares to the public for cash like normal open-end mutual fund sponsors, ETFs will **continuously swap their shares** (in large blocks called Creation Units) **with institutional investors for a portfolio of the actual securities that make up the underlying index**. There is also a balancing entry of cash to make up for any dividends that

have been received on the underlying securities.

While individual investors are able to participate in this swapping program, for practical purposes the size of the portfolios and the costs associated with creating and redeeming will be prohibitive for most individual investors. The table below will help put this in perspective.

Table 3: Example of Creation Unit Sizes and Costs

ETF	Creation Unit	# of Stocks/Unit	Appox. Cost/Unit**
DIAMONDS	50,000 shares	30	$5.3 million
SPDRs	50,000 shares	500	$7.0 million
Nasdaq-100	50,000 shares	100	$4.4 million
iShares Mexico	100,000 shares	32*	$1.6 million
iShares Japan	600,000 shares	188*	$9.1 million

**Approximate. The actual number of securities that comprise the benchmark foreign index will change from time to time.*
***Costs are estimated based on April 17, 2000 market prices and will fluctuate.*

For example, an investor would have to own all 500 stocks in the S&P 500 Index, in the same weights as occur in the Index, in order to create one SPDRs Creation Unit. Needless to say, one would incur substantial costs in accumulating this type of portfolio.

ETFs are only created and redeemed in Creation Unit size aggregations, or in multiples thereof. Using DIAMONDS as an example, they could be created or redeemed in sizes of 50,000, 100,000, 150,000 etc. Fractional Creation Units are not permitted.

Once the Creation Unit is issued, the **institutional investor** can simply hold the shares in their own portfolio as an investment or, and this is most often the case, they **will sell the shares to other investors in the secondary market.**

The redemption process occurs in the reverse manner. Unlike traditional open-end mutual funds, ETFs can only be redeemed in Creation Unit sizes. If the investor does not have a sufficient number of shares of the ETF to comprise a Creation Unit, they will purchase the additional shares in the secondary market. They then swap the Creation Unit with the sponsor for a basket of the underlying securities that make up the Creation Unit plus a balancing amount of cash. The investor can then simply retain these shares in their portfolio or trade them as they deem appropriate.

The Arbitrage Opportunity — Elimination of the premium/discount problem

Where ETFs differ from open and closed end funds is in the fact that all Creations and Redemptions are done via an exchange of securities, and that they are priced throughout the trading day on a stock exchange. **An investor always has the ability to swap securities for ETFs or vice versa**. This unique flexibility allows the investor to take advantage of differences that may arise in the market values of each component (the underlying shares and the value of the ETF itself) and arbitrage in those differences for a profit. For example, if the ETF is trading at a discount to NAV, the investor would bid the specialist at the discount exchange price for the necessary number of shares to make up a Creation Unit. If the investor is successful in obtaining these shares at a discount to NAV, they would redeem the Creation Unit of the ETF for the underlying portfolio of securities and sell those securities to realize a profit. This will reduce the number of ETF shares outstanding and bring trading and NAV prices back in line. The opposite

transaction would take place if the ETF were trading at a premium to the NAV. By swapping the portfolio of securities for new Creation Units, the investor would be adding new ETF shares to the market, which will serve to bring the trading and NAV prices back into line.

This constant movement back and forth between the ETF and the underlying securities is what tends to eliminate the premium/discount problem that arises with closed end funds.

Parties to the Creation/Redemption Process

Establishing an ETF is not a solo affair — it requires an elaborate division of labor that cannot be easily consolidated. This means that partnerships are required amongst numerous specialists to ensure that the creation/redemption process runs smoothly. The table below provides a list of the essential parties, along with a brief description of their responsibilities.

Table 4: Essential Participants in Managing an ETF

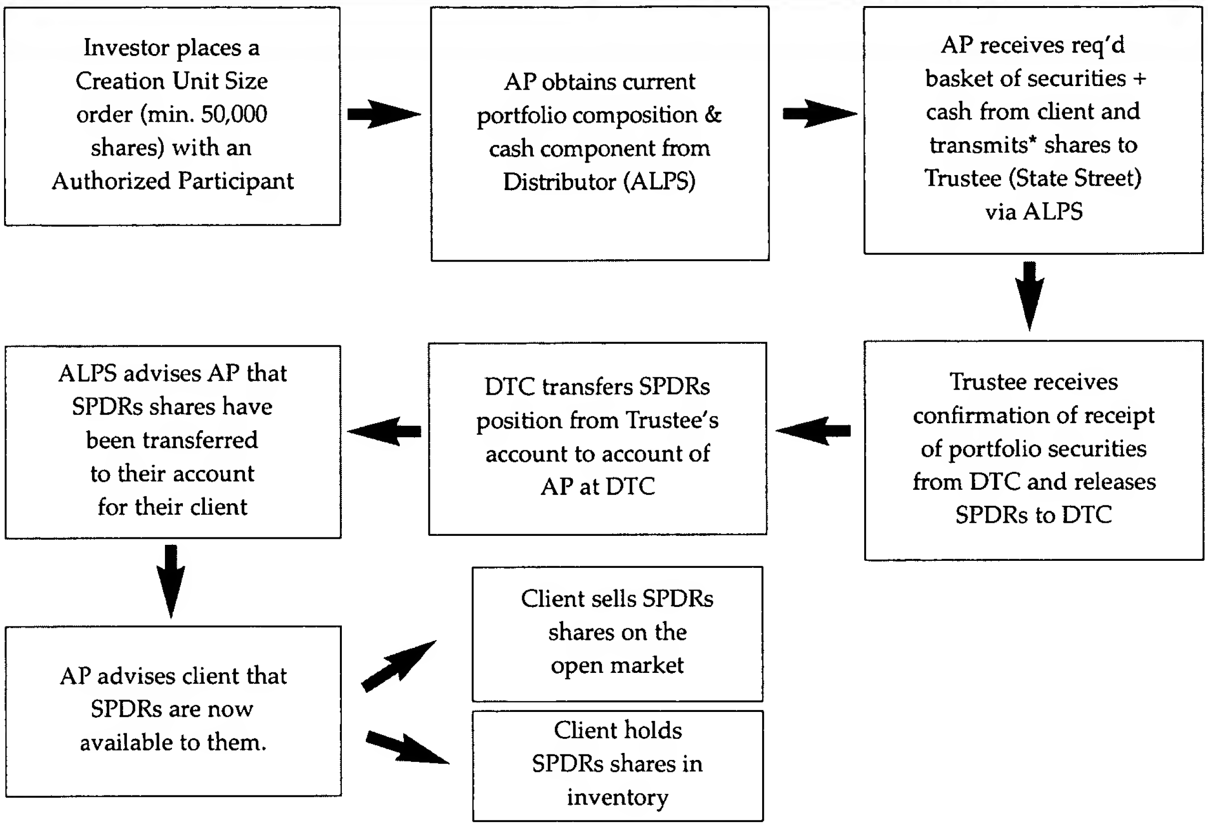
Sponsor	The firm or group of individuals that actually sets up the ETF product
Advisor/Trustee	Depending on the nature of the ETF, could be a **professional money manager or a Trustee**. If it is a pure replication of the underlying index, it is usually a Trustee. If there is any need to make a decision as to which securities should be placed in the ETF, this will be an Advisor. Regardless of which entity it is, they set up the portfolio, and make any required changes due to changes in the underlying benchmark index due to corporate actions (i.e., stock splits, mergers, additions, deletions, etc.)
Distributor	Acts as the **underwriter on an agency basis.** Receives all orders to create or redeem in Creation Unit size aggregations; transmits all such orders to the Transfer Agent and ensures that the appropriate exchange of shares and cash takes place
Administrator	Carries out all administrative duties with respect to the management of the ETF (calculation of NAV, dividends and distributions, Board attendance and reporting, etc.)
Custodian	Assumes custody of all securities representing the underlying portfolio
Stock Transfer Agent	Handles distribution of dividends and processes creation/redemption requests
Stock Exchange	Provides a medium for the execution of buy and sell orders in the **secondary market**
Specialists	Act as **"market makers"** to ensure continuous marketability of product
Authorized Participant	Broker/Dealer who, by agreement with the Distributor, is authorized to accept purchase and redemption orders for ETFs in Creation Unit size aggregations

There is also an Auditor and Legal Counsel to tend to the usual tasks assigned to these parties.

The following diagram may be of assistance in helping the reader understand the flow of securities and money between the various parties in a typical SPDRs Creation order.

The key players in this scenario are as follows: State Street Bank and Trust (Trustee), ALPS Mutual Fund Services (Distributor), and Depository Trust Company "DTC" (Depository).

The SPDRs Creation Process



* *Note: All transfers of underlying securities and Creation Units are done via the book-based system of NSCC (National Securities Clearing Corporation). Beneficial ownership of SPDRs is always in the name of the Authorized Participant and registered on the books of DTC. Certificates of ownership are not issued. The AP will, in turn, allocate ownership of the SPDRs to their client in the same manner as any other security that is registered in street name.*

The Redemption process works in just the opposite fashion. If an investor owns sufficient shares of an ETF to equal a Creation Unit (e.g., 50,000 shares for a SPDRs Unit), they would advise the Authorized Participant that they wanted to redeem their ETF for the underlying basket of shares, and the AP would deal with the Distributor to settle the transaction. If the investor did not own a sufficient number of the ETF shares to make up a full Creation Unit, they would purchase the required number of shares in the open market.

Tax Treatment

All exchange traded funds are structured so they qualify for favorable tax treatment under the U.S. Tax Code. **Like traditional open-end mutual funds, they avoid any tax liability by paying out at least 90% of all investment income received, and net capital gains realized, to shareholders annually**. Where

they differ significantly from open-end funds is in the way they handle redemption requests to take advantage of certain tax-efficiency rules permitted under the Tax Code.

In order to meet redemption requests, an open-end fund first uses existing cash balances and then, if necessary, sells securities. Depending on the tax cost of the securities sold, and the amount of realized capital losses already in the portfolio, the fund may or may not realize a capital gain that will have to be distributed to shareholders.

An ETF, on the other hand, can only satisfy redemption requests by transfers in-kind i.e., by transferring the underlying securities to the investor. Because of this in-kind requirement, **the ETF has the luxury of being able to identify which securities it will transfer to the investor. It can, therefore, choose to transfer those with the lowest cost base and effectively eliminate any unrealized tax liability**. This ability to pick and choose securities makes the ETF somewhat more tax efficient than the traditional mutual fund.

Both entities are required to sell securities when there is a change in the underlying benchmark Index, and this may or may not trigger a capital gain as well. If the ETF is able to swap out the affected securities during the redemption process, they may avoid realizing any capital gains on the changes.

The table below provides an example of the capital gains distribution differences between SPDRs and the Vanguard 500 Index Fund.

Table 5: Capital Gains Distributions as a % of NAV

Year	Vanguard 500 Index Fund	SPDRS
1993	0.07%	0.07%
1994	0.47%	0.00%
1995	0.23%	0.02%
1996	0.36%	0.16%
1997	0.66%	0.00%
1998	0.37%	0.00%
1999	0.74%	0.00%

Source: Morningstar, AMEX, Vanguard Funds

Expenses

ETFs generally have annual operating expenses in line with low-cost index mutual funds. Investors will, however, incur brokerage commission expenses when buying or selling ETFs that are not a cost when purchasing the index mutual funds. Over time, particularly for an investor using dollar-cost averaging, these expenses can add up. A comparison of the annual expenses for the ETFs and averages for some common index-based mutual funds is noted in Table 6 below.

Table 6: Average Annual Expenses for ETFs and Mutual Fund Categories

ETF	Expense	Mutual Funds	Expense
SPDR	0.12% + commission	S&P 500 Index Funds	0.47%
Mid-Cap SPDR	0.25% + commission	Mid-Cap Index Funds	0.33%
Sector SPDRs (9)	0.27% + commission	Int'l Index Funds	0.95%
DIAMONDS	0.18% + commission	Sector Funds	1.66%
Nasdaq-100	0.18% + commission	Mid-Cap Growth Funds	1.61%
iShares (17)	0.84%*+ commission	International Funds	1.71%

Source: Morningstar; AMEX
**WEBS expense includes a 25bp 12b-1 fee*

UNIQUE SELLING FEATURES VS. INDEX MUTUAL FUNDS

Being a hybrid product, ETFs provide investors with the same level of diversification one would find in an index-based mutual fund, as well as a number of additional features that normally pertain only to stocks. For example, with DIAMONDS an investor obtains the benefit of investing in an entire portfolio of the 30 stocks in the Dow Jones Industrial Index while, at the same time, being able to trade the entire portfolio as if it were a single security. Shares of DIAMONDS can be margined, they can be sold short (even on a down tick), and an investor can place limit orders to hedge against declining markets.

Table 7: Unique Selling Features of ETFs vs. Index Mutual Funds

Feature	ETFs	Index Mutual Funds
Pricing	Throughout the trading day	End of day only
Marginable	Yes	No
Performance similar to that of underlying index	Yes	Yes
Able to sell short	Yes, even on a down tick	No
Low portfolio turnover	Yes	Yes
Tax efficient	Yes	Index-based funds tend to be more tax efficient than actively managed
Ease of purchase/sale	Yes — through broker (full service or discount)	Yes — through broker (full or discount) or direct
Redeemable	No — only in Creation Unit size aggregations. Shares can, however, be sold in the secondary market	Yes
In-kind transfer	Yes	No

When compared to other index-based mutual funds, the primary benefits of the ETF lie in its marginability and intra-day pricing. This gives the investor greater trading flexibility than is available with ordinary mutual funds.

STRUCTURAL DIFFERENCES

Unit Investment Trust vs Open- and Closed-End Investment Management Companies

Although Closed-end funds are not normally thought of as an ETF, they do have a number of similar characteristics. In the interest of providing a thorough discussion, we will discuss them within the context of a comparison to the ETF structures.

All three vehicles are structured to qualify as a **Regulated Investment Company (RIC) under the U.S. Tax Code**. By agreeing to annually pay out at least 90% of all investment income received and net capital gains realized to shareholders, RIC's avoid having to pay tax (usually at a significantly higher rate than individuals would pay). Beyond this, there are significant differences between all three.

UNIT INVESTMENT TRUSTS (UIT)

Under the UIT structure, the Managers purchase the original portfolio, but once created it is fixed and remains unmanaged. This means that the portfolio composition is not changed during the life of the UIT, and this can work against shareholders in declining markets. UITs also normally have a defined

expiration date at which time all assets will be liquidated and distributed to the existing shareholders based on the number of units they own at that time, unless a new UIT has been established into which investors may transfer their funds. While **SPDRs, DIAMONDS and QUBES are Unit Investment Trusts, their expiration dates are continually extended** so they, in effect, do not have an expiration date.

Open-end Investment Management Companies

ETFs that are structured as Open-end Investment Management Companies, like iShares, provide the Investment Advisor with **more flexibility to adjust the portfolio to participate in changes that are made to the underlying benchmark index**. This added flexibility ensures that shareholders are being exposed to the same market influences as the underlying benchmark that the ETF seeks to track.

Like traditional mutual funds, they also have the ability to continuously issue new shares. Unlike traditional mutual funds, however, as an ETF they only issue and redeem shares in Creation Unit size aggregations. Purchases or sales in sizes other than in Creation Unit sizes take place in the secondary market.

Closed-end Investment Management Companies

These are the **hybrids**. They issue a fixed number of shares that only trade in the secondary market. Shares are not redeemable by the Fund, and **no further shares may be issued** once the initial primary offering is completed. If you want to purchase shares, there must be a willing seller. They also have an **actively managed portfolio**.

The following table may help illustrate some of the differences between the three structures.

Table 8: Structural Differences between ETFs and Closed-end funds

Characteristic	ETF: UIT	ETF: Open-end	Closed-end
Capitalization	Unlimited — continuous offering of shares	Unlimited — continuous offering of shares	Fixed; single offering of shares
Shares	Full or fractional shares	Full or fractional shares	Full shares only
Trade in Secondary Market	Yes	Yes	Yes
Redeemable Shares	Only in Creation Unit size aggregations	Only in Creation Unit size aggregations	No
Board of Directors	No	Yes	Yes
Actively Managed	No	Yes*	Yes
Pricing	Throughout the trading day	Throughout the trading day	Throughout the trading day

* *When we refer to active management with an open-end ETF, we are referring to the process that a portfolio manager employs to select a sub-set of securities from those contained in the underlying benchmark index. This sub-set is the portfolio that the Manager believes, through selective weightings and their own research, will deliver the same level of performance as the benchmark without having to replicate the index.*

ETF PRODUCT COMPARISON

Table 9 provides a brief overview of the differences and similarities of a number of the more popular ETFs that are currently available in the market. Additional details can be found in Appendix A.

Table 9: ETF Product Comparison

ETF	Structure	Creations/Redemptions	Dividends
DIAMONDS	UIT	50,000 shares	Monthly in cash
QUBES	UIT	50,000 shares	None expected to be paid
SPDRs	UIT	50,000 shares	Quarterly in cash
MidCap SPDRs	UIT	25,000 shares	Quarterly in cash
Select Sector SPDRs	RIC	50,000 shares	Quarterly in cash
iShares	RIC	Various*	Semi-annually in cash

**See Appendix A for details*

HOLDRs have a number of differences that are worth mentioning separately:

- They only trade in round lots of 100 shares. This can make the price of a purchase **expensive for many smaller investors**. For example, at a recent (4/26/00) price of $122.50 for the Internet HOLDRs, a round lot would cost an investor $12,250.
- Each of the HOLDRs has a **concentrated portfolio** of 15-20 individual stocks in a specific sector. This can expose the investor to a considerably **higher risk level** than one might find investing in one of the other more broadly-based ETFs.
- Being a fixed portfolio, there is **little turnover** — a distinct benefit to shareholders.
- Being a fixed portfolio, there is **no ability** to add new companies or **adjust to changes in the market**, even if another company acquires one of the companies in the portfolio. This is a **disadvantage** to shareholders, especially considering the highly volatile nature of the sectors in which these HOLDRs invest.
- When first established, the portfolio of stocks is weighted by market capitalization to represent a specific sector, with a ceiling of 20% on any single stock. Over time, as individual stocks within the portfolio increase in value, and because changes cannot be made to the portfolio, the largest names can account for an ever-larger percentage of the total portfolio. This can expose the investor to very high concentration levels.
- Investors have the option of purchasing HOLDRs in the secondary market or exchanging the required number of the underlying securities for HOLDRs shares (in round lots of 100 or multiples thereof). Because the dollar amounts involved are much lower for in-kind redemptions, smaller retail investors can more realistically avail themselves of this benefit with HOLDRs than with other ETFs. The actual share amounts for each HOLDR can be found in the Appendix A.

II FUTURE ETF PRODUCT DEVELOPMENTS

With the number of so-called "traditional" exchange traded funds rapidly approaching the 80 mark (if all of Barclays' applications are approved and introduced), the next logical step would be for the sponsor's to try to introduce some variation on the theme in order to carve out another niche.

Some in the media have discussed the idea of an enhanced ETF, others have mentioned the possibility of introducing an actively-managed ETF. Still others have raised the possibility of cloning one or more of the existing mutual funds and trading them on an exchange. How do each of these differ from existing ETFs?

<u>Enhanced Exchange Traded Funds</u>

Thus far, virtually all of the ETFs on the market are based on an underlying Index against which they benchmark their performance. **With an "enhanced" product, an investment advisor will make minor adjustments to the underlying benchmark Index in an attempt to outperform that benchmark**. Some examples:

- an Advisor would use **leverage** to outperform a benchmark index; or
- an Advisor may **over- or underweight** certain holdings if they believe a particular stock or sector will outperform over a particular time period; or
- an Advisor may decide to **add other stocks** from a particular sector that are not currently in the benchmark Index to achieve the same objective.

This "tweaking" of the benchmark will, of course, incur additional expenses — for the Advisor and for trading expenses.

<u>Actively Managed Exchange Traded Funds</u>

In concept, an actively managed ETF sounds like an interesting idea — one could supposedly have the benefit of an actively managed portfolio of securities (like any other mutual fund) that could be traded as a basket on an exchange. The only problem is that **no one yet knows how to make it work**.

By its nature, **an ETF is transparent** — that is, anyone can see the holdings in the basket at any time. **Money managers do not like others to see what they hold in their portfolios**. They believe it will give their competitors (including day traders and individual/institutional investors) the opportunity to copy their trading activity and negatively impact a stock's price (up or down). Their goal of out-performing any particular Index becomes that much more difficult.

In addition, a **Specialist** on the floor of the Exchange **will find it extremely difficult to hedge their risk in making a market for the ETF**. If they are unable to hedge their risk, they are very unlikely to make a market in the security.

These are serious issues that, to this point, remain unresolved. Until they are resolved, it is **highly unlikely an actively managed ETF will be introduced any time soon**.

<u>Clone an Existing Mutual Fund</u>

This may be the fastest way to get to a version of the actively-managed ETF, although one would still run into the same "transparency" issues as mentioned above. Because an investor would, presumably, have the ability to swap their holdings of the ETF clone for the underlying basket of securities at any time, the money manager would have to make the contents of that portfolio known to the investor on an as-requested basis. The Specialist still has the problem of hedging their risks.

Some have proposed the introduction of a **separate share class of an existing actively managed mutual fund** as a way to get around this, one that only trades on an exchange. At this point, it would seem that the same issues presented above apply to this approach. How does one get around the need for transparency?

Naturally, **if the fund to be cloned was an index-based fund, transparency is not an issue** since index funds are, by their very nature, transparent. Indeed, as this paper was written **Vanguard** Funds announced its **intention to introduce a new ETF share class for five of their existing index funds**. Called VIPERS (for Vanguard Index Participation Equity Receipts) the new ETFs to be introduced are for the following funds: the Vanguard 500 Index Fund, the Vanguard Total Stock Market Index Fund, the Vanguard Small-Cap Index Fund, the Vanguard Growth Index Fund and the Vanguard Value Index Fund. Pending regulatory approval, the new share classes are slated to be introduced in the third quarter of 2000. Vanguard, in its application with SEC, has requested exemptive relief for all nine of its index funds, but only intends to initially offer VIPER shares on the five funds identified above.

THE INTERNATIONAL ARENA

While this paper deals primarily with the development of ETFs in the United States, it would not be complete without some mention of the expansion of ETFs in international markets. Indeed, following the recent growth of these instruments in the U.S., sponsors have been expanding their offerings into foreign markets rather quickly.

Canada

ETFs have become synonymous with SPDRs in the United States, but **Canada actually introduced the very first exchange traded fund in 1989**. The **TIPS 35** (Toronto Index Participation Units) was designed to track the 35 largest and most liquid stocks trading on the Toronto Stock Exchange. The TSE later introduced another fund called **HIPS** that tracked the 100 largest TSE companies.

In October 1999, **Barclays Global Investors**, in conjunction with Standard & Poor's, launched the **iUnits S&P/TSE 60 Index Participation Fund** (or i60s for short). Shareholders of the TIPS and HIPS agreed to merge with the i60s in March of this year and the combined fund now has approximately **$4 billion** in assets and represents one of the most heavily traded issues on the TSE.

State Street Global Advisors has plans to launch the Dow Jones Canada 40, which will track the performance of Canada's 40 largest companies, sometime later this year.

Hong Kong

The **TraHK Fund** was introduced in **November 1999**. Designed to track the performance of the Hang Seng Index, the fund is managed by **State Street Global Advisors**.

It had its origins in the market turmoil that was sweeping Asian markets in 1998. In order to help protect its market from overly negative influences of outside forces, the Hong Kong government instituted an unprecedented buying spree on the Hang Seng Exchange. This gave the government more than 10 percent ownership in three companies, and smaller but significant ownership in the remaining 30 companies that comprised the Hang Seng Index.

While the government was clear that it did not intend to hold these shares as an investment, it was concerned that selling the shares back to the public would cause the disruption in the market that it originally sought to avert.

The TraHK Fund, essentially composed of the shares bought by the government, was created as an efficient way for the government to transfer ownership of these companies back to the general public without causing unnecessary disruption.

EUROPE

With the advent of the European Monetary Union, privatization of business enterprise, and the advancement of the concept of shareholder value, equity ownership in many European markets is increasing at an accelerating pace. Viewed as the place with the largest growth opportunity, Europe has attracted significant

attention from the major ETF sponsors in recent months.

Germany

Merrill Lynch introduced the first ETFs on the Deutsche Bourse in Frankfurt on **April 11, 2000**. Known as Listed Diversified Return Securities, or **LDRS ("Leaders")**, they are designed to track the performance of the Dow Jones Euro Stoxx 50 and Stoxx 50 Indices. Through both ETFs investors can obtain part ownership in Europe's leading 50 stocks from all industry sectors. Both funds are co-managed by Merrill Lynch and Landesbank Baden-Wurttemberg

Merrill has made application to the Paris and Zurich exchanges for permission to list both of these ETFs on those exchanges and have also indicated that more LDRS are in the pipeline.

United Kingdom

Hot on the heels of the Germany launch, **Barclays** Global Investors launched the **iFTSE100** on the **London** Stock Exchange (LSE) on **April 28, 2000**. To show how serious the LSE is about the possibilities for ETFs, they **created a specialist market just for Exchange Traded Funds called extraMark**. Barclays is widely expected to introduce 10 to 12 more ETFs, under their iShares trade name, across Europe this year.

State Street Global Advisors is also known to be in discussions with several leading European Exchanges, including London, Frankfurt and Paris.

The NASDAQ has recently announced plans to begin trading the Nasdaq-100 **(Qubes) on the London Exchange** sometime this year.

Sweden

Even tiny Sweden is getting into the act. They have announced plans to introduce their first ETF, the **XACT OMX by early this summer**. The XACT OMX will track the performance of the 30 most actively traded stocks on the Stockholm Exchange.

France

As mentioned above, **Merrill Lynch** has made application to list their two LDRS on the Paris Bourse. There are a number of legal issues, but Merrill is confident these can eventually be addressed. They have also indicated that, depending on the reception LDRS receive, they may consider creating new LDRS based on the CAC 40 Index.

As is readily apparent, the success of exchange traded funds in the United States is spilling over to other countries. If they meet with the same level of acceptance as they have here, the pace of new product launches will surely quicken.

III THE SEC APPLICATION PROCESS

Introduction

One of the most significant obstacles to the successful creation and launch of an exchange traded fund is the need to navigate a particularly intricate and time-consuming series of regulatory hurdles. Nearly all of the unique characteristics that distinguish ETFs from traditional open-end funds, Unit Investment Trusts, closed-end funds and individual securities require some form of regulatory exemption or relief to permit their implementation. ETF innovations may be looked upon with great excitement by financial engineers, product developers, money managers and many segments of the investing public, but these same innovations are frequently viewed with caution or even skepticism by those who hold the regulatory keys in the investment world.

Product developers who are used to quick rollouts of traditional pooled investment vehicles will need to adjust to an entirely different set of baseline expectations when they begin to consider sponsoring their own ETFs. Many factors work together to drag out development timelines. There are numerous technical hurdles to overcome in learning the mechanics of product structuring, and it seems that for every technical challenge there is a corresponding regulatory challenge. "Solving" a structural or procedural problem in your product design seems only to earn you the right to begin the time-consuming process of justifying that solution to those charged with maintaining the integrity of our financial markets.

There is nothing glamorous or exciting about learning to negotiate the legal and regulatory obstacle course that confronts ETFs, but it is an unavoidable necessity for those who are truly serious about entering the arena of exchange traded funds for themselves. Detailed strategic plans, innovative distribution strategies, bold marketing efforts and deep pockets must all stand in line and wait until the SEC grants its permission for a newly proposed ETF to be released to the public.

Specialized expertise is needed to manage the ETF filing process, and there are very few legal firms that have developed a focused capability in this area. Of the handful of pioneers who have actually helped to bring ETF products to market, one of the most distinguished is **Kathleen Moriarty** of **Carter, Ledyard & Milburn**. The bulk of this chapter is a distillation of her observations about the realities of petitioning the SEC for the appropriate exemptions needed to launch an exchange traded fund. We are grateful to be able to include her valuable insights from the front lines of the ETF filing battles. These excerpts are taken from her presentation entitled **"Examining Exchange Traded Fund Structure"** which was first presented at the recent International Bar Association/Investment Company Institute 11th Annual Seminar on the Globalization of Mutual Funds (April 30th-May 3rd) in Bermuda.

Kathleen joined the Wall Street law firm of Carter, Ledyard & Milburn as a Corporate Department Partner in 1997. There she specializes in the legal, structural and regulatory implications of the Investment Company Act of 1940 (the "40 Act"). Kathleen has extensive experience in the establishment and representation of exchange traded investment companies, popularly known as "ETFs". Her initial involvement in the structure, creation and registration of the American Stock Exchange's SPDRs has made her uniquely qualified to advise on the establishment of ETFs, including DIAMONDS, WEBS, MidCap SPDRs and QUBES. In the summer of 1999, she was asked by the Stock Exchange of Hong Kong to assist with the structure and creation of the Hong Kong Tracker Fund, based on the Hang Seng Index.

Prior to joining Carter, Ledyard & Milburn, Kathleen was a partner in the firm Orrick, Herrington & Sutcliffe where she represented the American Stock Exchange as well as issuers and underwriters of tax-exempt financings and structured finance transactions, and also advised such clients with respect to '40 Act issues. A graduate of Smith College and University of Notre Dame Law School, Kathleen was admitted to the New York Bar in 1981. She has been an instructor at the New York Institute of Finance for several years and is a member of the American and New York City Bar Associations and the Women's Investment Management Forum.

We begin with Kathleen's insights about the organization, structure and mechanics of exchange traded funds. This section expands upon some of the foundation laid out in Chapters One and Two. Kathleen leads off with an explanation of the ways in which ETFs are similar to both open-end and closed-end funds. This is followed by a detailed look at the subtle distinctions that differentiate ETFs from both traditional categories of mutual funds.

A. ETF ORGANIZATION AND STRUCTURE

(Emphasis added by FRC)

ETFs are regulated under the U.S. Investment Company Act of 1940 (the "40 Act") which governs most pooled investment vehicles sold on a retail basis.

1. Both Fish and Fowl..."Surf and Turf"

ETFs have features of (i) unit investment trusts ("UITs") or open-end investment management companies ("open-end funds" or "mutual funds") and (ii) closed-end investment management companies ("closed-end funds"):

(a) An ETF is legally organized either as a UIT or an open-end fund to provide essential features such as **continuous issuance ("creations") and redemption** of its units or shares at their daily net asset value ("NAV") established at market close, and an ETF also

(b) Provides an essential feature of closed-end funds: **exchange trading** of units or shares at market prices **throughout the entire trading day**.

ETFs provide the owners of their units/shares with **all of the rights to vote and to receive statements, reports and notices required by U.S. law with regard to UITs/open-end funds,** such as annual and semi-annual reports, written statements accompanying dividend payments, annual notifications reporting the tax status of distributions, and proxy statements.

2. ETFs **Differ** From Traditional **UITs** and **Open-End** Funds in several important ways:

   (a) ETFs issue their units/shares only in specified large lot sizes (usually 50,000) called "**Creation Units**" which are issued and redeemed almost exclusively "**in kind**", i.e., in exchange for an actual portfolio of securities ("Portfolio Securities") plus a small amount of cash specified daily by the ETF to equal NAV, (the "Cash Component"). **Individual ETF units/shares are only bought and sold in the secondary market at market prices for cash**, which may or may not be at NAV. In contrast, virtually all mutual fund shares are issued and redeemed directly by the fund for cash, and always at NAV;

   (b) Creation and redemption processes occur directly with an ETF only in Creation Unit size aggregations, while **individual units/shares are bought and sold, but not redeemed, only on the secondary market, without any interaction with or input from the ETF**. In contrast, all mutual fund shares are issued and redeemed directly by the fund;

   (c) Creation Units are created and redeemed directly with the ETF once daily at market close, while individual units/shares are

bought and sold through the specialist and market makers at all times during the trading day. In contrast, mutual fund shares are issued and redeemed directly with the fund once daily, at market close;

(d) All ETF units/shares, whether individual or combined together in Creation Unit sized lots, are **held only in "street name"** through the Depository Trust Company ("DTC") in "book-entry" form, so, unlike mutual funds, **an ETF does not** issue certificates nor **know the identity of its individual shareholders**;

(e) Some ETFs are not required to deliver prospectuses in connection with secondary market trading activity of their units/shares (see Section B 1(b) below). In contrast, all mutual funds are required to deliver prospectuses for all purchases of their shares (except under limited circumstances);

(f) ETF units/shares can be sold with **limit and stop orders**, unlike mutual fund shares;

(g) The actual composition of each ETF's **portfolio is well known and widely disseminated on a daily basis**, while the portfolios of many mutual funds are not.

3. <u>ETFs **Differ** From Traditional **Closed-End** Funds</u> in at least one important way: individual units/ shares **trade at prices close to their daily NAV**.

   (a) Closed-end funds are not required to calculate NAV daily - most price and publish their NAV weekly. Closed-end funds do not redeem their shares, so the forces of supply and demand dictate that their shares often trade at a premium or discount from their NAV. In contrast, ETF units/shares, which are created and redeemed in Creation Units at their daily NAV, but purchased and sold at an established trading price any time **throughout** the day, **provide arbitrage opportunities to institutional investors**;

   (b) Most closed-end funds do not publish the exact composition of their portfolio holdings on a frequent basis, so an investor cannot calculate an estimated or approximate NAV ("Indicative NAV") per share during the periods when the actual NAV is not calculated and published by the fund;

   (c) In contrast, **a great deal of information is published daily with respect to ETFs.** The AMEX disseminates throughout the trading day (i) on a continuous basis, the market price of an ETF unit/share and (ii) on a 15 second basis, an amount per ETF unit/share representing the sum of the current value of Portfolio Securities plus the Estimated Cash Component, (i.e., an Indicative NAV). Also, the identity and number of shares of each Portfolio Security required for an in-kind deposit as part of a Creation Unit is displayed by the AMEX. Other organizations, authorized by each Index Provider, disseminate the intra-day values of the NAV per ETF unit/share as well as their estimated value of the relevant Index.

B. ETF PRICE TRACKING — HOW CLOSE?

One of the most important structural questions about exchange traded funds concerns their ability to reduce or eliminate the premium/ discount problem that has plagued many closed-end funds. As we have seen, the elaborate arbitrage mechanism that is embedded into the ETF structure has been designed to maintain as tight a correlation as possible between the market prices of the ETF and their corresponding net asset values. If this arbitrage process can deliver what it promises, then this represents a genuine improvement over the old closed-end structure. How successful have the early ETFs actually been in reducing the "tracking error" between market prices and NAVs? Kathleen

Moriarty gives us a clear answer down to the last decimal in this continuing excerpt from her IBA/ICI presentation. ***(Emphasis added by FRC)***

(a) The constant dissemination of information, combined with the ability to create or redeem units/shares on a daily basis, provides institutional investors and arbitrageurs with the **opportunity to execute arbitrage transactions. Historically, this has kept the market prices of ETF units/shares very close to their NAV** (i.e., they trade with very little premium or discount to their NAV).

(b) An analysis provided by the AMEX of the degree of correspondence between the respective NAVs of SPDRs, MidCap SPDRs, DIAMONDS, Nasdaq-100 Shares and Select Sector SPDRs against their correlative trading prices shows that **historically, the two valuations have been very close**. For example, as of February 29, 2000:

i. the **average deviation** between the daily closing price and the daily NAV of **SPDRs** was **minus 0.0167%** (i.e., a discount of 0.0167%) and the maximum deviation for the period from the commencement of SPDR trading on January 29, 1993 through February 29, 2000 was plus 1.0188% (i.e., a premium of 1.0188%);

ii. the **average deviation** between the daily closing price and the daily NAV of **MidCap SPDRs** was a **plus 0.0505%** (i.e., a premium of 0.0505%) and the maximum deviation of the period from the commencement of MidCap SPDR trading on May 4, 1995 through February 29, 2000 was minus 1.8762% (i.e., a discount of 1.8762%);

iii. the **average deviation** between the daily closing price and the daily NAV of **DIAMONDS** was **plus 0.0004%** (i.e., a premium of 0.0004%) and the maximum deviation for the period from the commencement of trading on January 20, 1998 through February 29, 2000 was plus 1.0299% (i.e., a premium of 1.0299%);

iv. the **average deviation** between the daily closing price and the daily NAV of **Nasdaq-100** Shares was **plus 0.0195%** (i.e., a premium of 0.0195%) and the maximum deviation for the period from the commencement of Nasdaq-100 Shares trading on March 4, 1999 through February 29, 2000 was minus 2.1352% (i.e., a discount of 2.1352 %);

v. the **average deviation** between the daily closing price and the daily NAV of all **Select sector SPDR Series** was **plus .0261%** (i.e., a premium of 0.0261%) and the maximum deviation from December 22, 1998 (the commencement of Select Sector SPDR trading) through February 29, 2000 was minus 2.1494% (i.e., a discount of 2.1494%).

While **past performance is no guarantee of future results**, the close correspondence between NAVs and market prices of SPDRs, MidCap SPDRs, DIAMONDS, Nasdaq-100 Shares and Select Sector SPDRs appears to be due to the feature of in-kind purchases and redemptions, which historically has facilitated price-correcting arbitrage activity. The market prices of exchange traded fund shares based on foreign indices may experience greater deviations from their respective NAVs than their domestic counterparts due to a variety of factors, including closing time differences between foreign and U.S. markets, currency conversions and local holiday schedules.

C. THE SEC AND THE APPLICATION PROCESS

This is the issue where Kathleen's hands-on experience really stands out. The next section will no doubt cause the eyes of many fund marketers and sales executives to glaze over. This is not your average "made for public consumption" reading material. Welcome to the world of the administration and legal departments. The next few pages may present the

kind of information that only a 1940 Act Attorney could love, but every management company that wants to begin operating their own exchange traded funds is going to have to develop a command of these issues if they ever want to make it to the marketplace.

As mentioned earlier, this expertise is not yet well developed across the industry. Now is the time for the legal departments of investment management companies to begin to bring themselves up to speed on the nuances of the ETF application process, and decide whether they want to attempt to develop the expertise internally and organically or whether they want to share some aspects of the process with one of the pioneering law firms that have an established track record in this specialized area. ***(Emphasis added by FRC)***

1. Exemptive Application Under the '40 Act

   (a) **Typical requests for an ETF structured as an open-end fund include relief from** §2(a)(32) and §5(a)(1), to permit ETFs to redeem shares only in Creation Unit size; §22d and Rule 22c-1 to permit trading of shares to take place at prices other than NAV; and §17 (a) and §17(b) to permit affiliates to deposit securities into, and receive Portfolio Securities from, the ETF;

   Typical requests for an ETF structured as a UIT **also include relief** from §26(a)(2) to permit certain expenses associated with the creation and maintenance of the trust to be borne by the trust rather than its sponsor; §14 (a) to exempt the sponsor from the $100,000 seed capital requirement; and §17(d) and Rule 17d-2 to permit certain affiliated transactions;

   (b) Other requests **may include relief from** §24(d) to permit exemption from prospectus delivery requirements in connection with secondary market trading activity; §22(e) to permit satisfaction of redemption requests to be made in excess of the statutory 7-calendar day requirement under certain circumstances; §12(d)(1) to permit a "fund of funds" structure; and other §17 relief if the structure of the fund and its relationship with its participants and service providers necessitate relief.

2. Exemptive, Interpretive and No Action Relief from the Exchange Act of 1934 (the "34 Act")

   (a) Exemptive, interpretive and no-action requests for relief from various '34 Act trading restrictions include: relief from Rule 10a-1 ("uptick rule") with respect to short sales of ETFs; relief from Rule 101 of Reg M and Rule 14e-5 to permit broker-dealers and others to bid for, purchase, redeem or engage in other secondary market transactions for ETF units/shares and Portfolio Securities during such broker-dealer's or other person's (1) participation in a distribution of ETF units/shares or Portfolio Securities during a "distribution" of such ETF shares/units of Portfolio Securities or (2) participation in a tender offer for Deposit Securities; and relief from Rule 102 of Reg M to permit ETFs to redeem their units/shares in Creation Units during their continuous offering of ETF units/shares;

   {Additionally} relief from Rule 10b-10 to permit broker-dealers and other persons to deposit Portfolio Securities in connection with creations of ETFs or to receive Portfolio Securities in connection with creations of ETFs or to receive Portfolio Securities in connection with redemption of ETFs without providing their customers with a statement of the number, identity and price of each individual Portfolio Security and relief from Rules 11(d) 1-1 and 11(d) 1-2 to permit margining of ETF units/shares without a thirty-day restriction under certain circumstances;

   (b) §19b and Rule 19b-4 rule changes to permit the exchange to list ETFs;

(c) No-action relief has also been sought for the officers and directors of the ETF and owners of more than 10% of the ETF's units/shares so that such persons do not have to comply with reporting requirements imposed by §16(a) and §13(d).

3. Basic SEC Procedure For Granting Exemption Orders Under the '40 Act.

(a) **File application with SEC** (meeting may be held with SEC staff members and/or **confidential draft applications may be submitted** to the staff prior to the formal filing of an application for confidentiality purposes);

(b) SEC Division of Investment Management ("IM") staff reviews application:

- SEC administrative **rule states** that first review should occur within **45-60 days** post filing;
- IM understaffed, **usual first comment period occurs with 3 to 5 months** post-filing (e.g. DIAMONDS — filed June 17, 1997, first SEC comments received orally October 20, 1997);

(c) IM staff sends written comments to Applicants;

(d) Applicants have **60 days** to reply and file amended application in response to IM comments — usually a draft amended application is submitted within 4-6 weeks depending upon how extensive and/or controversial the IM comments are. Negotiation, clarification and amplification of contested issues are discussed by telephone conferences and, in rare cases, in person;

(e) **Process repeats**, resulting in filing additional drafts and amended applications in response to additional comment letters and negotiations/meetings, phone conferences with SEC staff. This process can become **very time consuming if other divisions of the SEC become involved** (e.g. Market Regulation ("Market Reg"), Corporation Finance ("Corp. Fin.") or Office of the General Counsel ("GC");

(f) Once the amended application is in acceptable form and is formally filed with the SEC, the SEC publishes a notice of the request for orders in the Federal Register generally for **20-25 days**;

(g) Unless unusual Commission actions occur (see H below), the order is signed by IM pursuant to delegated authority, issued and published several days after the Federal Register notice period expires;

(h) Unusual Commission actions:

1. If the IM staff decides that their delegated authority doesn't extend to the relief requested, they will submit the application to the Commission for review, either on a seriatim or full review basis;
2. If a hearing is requested during the notice period, the IM staff must consider the request, then either accept or deny the request. If accepted, a public hearing before the Commission is conducted;
3. Both situations require additional time before an order is entered. Additional amendments may be required or the order may be denied.

D. HISTORICAL TIME SEQUENCES FOR ORDERS GRANTED TO OTHER EXCHANGE TRADED FUNDS

While we recognize once again the inability to accurately forecast the future based upon past events, there is no doubt that the best indication we have about the length of time needed to navigate the regulatory approval process from start to finish is the documented history of those filings that have gone before. To date, the SEC continues to evaluate

each application on a detailed case-by-case basis whether or not they may already have reviewed the issues and passed approval for "identical" applications in the past. They have yet to issue any form of blanket or universally applicable exemptions or suggested any language or structural or procedural preferences that could be used to speed up the process or make it more predictable.

It is reasonable to expect that sooner or later the SEC will issue some general exemptive language that will accelerate the filing process at least moderately. However, this would presumably apply only to index-based ETFs, since all ETFs to date have been of this type. Actively managed (AM) ETFs will have to overcome a whole host of unique and, as yet, not fully identified obstacles to gain approval.

Even if the conceptual and technical issues can be worked out to create an actively managed ETF, there are still very distinct regulatory hurdles that will then have to be faced. Paul Roye, the Director of the SEC Division of Investment Management, has already expressed pre-emptive concerns about the concept of actively managed ETFs from both a technical and a policy perspective.

On the policy side, Roye is worried about encouraging the day trading of mutual funds, which have traditionally been viewed as long-term vehicles. For example, he believes that if actively managed ETFs are permitted, they might engender "a short-term trading mentality in fund shares spilling over into the non-exchange traded class of fund shares."

FRC does not believe that the ability to trade more frequently will necessarily lead many investors to meaningfully increase their trading velocity. But if the top fund regulator believes otherwise, then we should expect at best to see a continuation of the very lengthy approval periods that have been the norm to date for index-based ETFs.

Below, Kathleen Moriarty chronicles the most significant milestones in the obtainment of SEC exemptive orders for each of the major exchange traded funds that have received approval in the U.S. to date. ***(Emphasis added by FRC)***

1. **SPDRs** — first exchange traded unit investment trust
   - X application first filed: June 25, 1990
   - X application **amended four times**: 2/2/91; 2/28/92; 6/8/92 and 8/7/92
   - X notice published: September 17, 1992
   - X **review by Commission** on Seriatim basis
   - X order granted: October 26, 1992

   <u>Total elapsed time:</u> **28 months**

2. **MidCap SPDRs** — clone of SPDRs application (UIT structure)
   - X application first filed: May 28, 1993
   - X application **amended two times**: July 13, 1994 and January 18, 1995
   - X notice published: December 23, 1994
   - X **review by Commission** on Seriatim basis
   - X order granted: January 18, 1995

   <u>Total elapsed time:</u> **20 months**

3. **DIAMONDS** — clone of SPDRs application (UIT structure)
   - X application first filed: June 17, 1997
   - X application **amended once**: December 3, 1997
   - X notice published: December 5, 1997
   - X delegated authority, no Commission review
   - X order granted: December 30, 1997

   <u>Total elapsed time:</u> **6 months**

4. **Country Baskets** — first exchange-traded mutual fund (open-end fund structure)
   - X application first filed: August 19, 1994
   - X application **amended five times**: 10/28/94; 11/30/94; 1/10/95; 3/30/95 and 6/30/95.
   - X notice published: February 6, 1996
   - X **Commission review** on Seriatim
   - X order granted: March 5, 1996

   <u>Total elapsed time:</u> **19 months**

5. **WEBS** — (open-end fund structure)

   X application first filed: September 19, 1994
   X application **amended four times**: 12/23/94; 5/19/95; 1/17/96 and 2/28/96
   X notice published: February 6, 1996
   X delegated authority, no Commission review
   X order granted: March 6, 1996
   Total elapsed time: **18 months**

6. **Select Sector SPDRs** (open-end fund structure)

   X application first filed: May 13, 1997
   X application **amended twice**: 9/4/98 and 11/1/98
   X notice published: October 20, 1998
   X delegated authority, no Commission review
   X order granted: November 13, 1998
   Total elapsed time: **18 months**

7. **QQQs** (Nasdaq — 100 Trust) (UIT structure)

   X application first filed: August 19, 1998
   X application amended February 18, 1999
   X notice published: January 27, 1999
   X delegated authority, no Commission review
   X order granted: February 22, 1999
   Total elapsed time: **6 months**

8. **iShares (iShares Trust)** (open-end fund structure)

   X applications first filed April 30, 1999
   X applications **amended twice**: 5/2/99 and 5/11/99
   X notice published: April 17, 2000
   X delegated authority, no Commission review
   X order granted: May 12, 2000
   Total elapsed time: **12.5 months**

Table 10 below provides a summary of this information for easier review.

Table 10: Milestones for SEC Approval

	Application first filed	Application Amended	Notice Published	Commission Review	Order Granted	Elapsed Time
SPDRs	6/25/90	Four times	9/17/92	Yes	10/26/92	28 months
MidCap SPDRs	5/28/93	Two times	12/23/94	Yes	1/18/95	20 months
DIAMONDS	6/17/97	One time	12/5/97	No	12/30/97	6 months
Country Baskets	8/19/94	Five times	2/6/96	Yes	3/5/96	19 months
WEBS	9/19/94	Four times	2/6/96	No	3/6/96	18 months
Select Sector SPDRs	5/13/97	Two times	10/20/98	No	11/13/98	18 months
QUBES	8/19/98	One time	1/27/99	No	2/22/99	6 months
iShares	4/30/99	Two times	4/17/2000	No	5/12/2000	12.5 months

IV INSIGHTS FROM THE EXPERTS

FRC conducted primary source research to glean insights from and gauge the opinions of four distinct groups concerning their views of potential future developments with respect to exchange traded funds. This chapter presents the results of extensive interviews with seventeen ETF experts who are on the leading edge of creating, promoting and analyzing these products. **Chapter Five** contains similar feedback from several dozen **brokers and planners who are active users of ETFs**, and also examines how these professional early adopters are actually using these instruments in their clients' portfolios. **Chapter Six** includes the results of our interviews with **retail ETF investors** and informed inquirers. These retail early adopters provide valuable insight into how individual investors currently use exchange traded funds in their personal portfolios. Finally, in **Chapter Seven**, we analyze the attitudes and preferences of more than 800 **general retail investors** who have yet to consider ETFs. Here we examine their potential openness to future ETF purchases, based on their reactions to the various distinguishing benefits that exchange traded funds purport to offer.

FORECASTING CONSTRAINTS

So much about the future of exchange traded funds is highly speculative. There is no doubt that forecasting the future is always an endeavor that is fraught with risks and limitations. Most successful forecasts are built on strong empirical foundations and statistically significant historical trend-lines from which reasonable extrapolations can be made. The newer the issue under analysis, the less data will be available, and the less capable we will be to make educated guesses about its future course.

ETFs are still very new products and, despite their recent success, they are still relatively unknown and therefore untested in the general investing marketplace. They may have caught on within a very limited group of early adopters, but will they have appeal to the mainstream financial segments that control the bulk of investable assets? Are the things which made them successful with the early 'test groups' equally appealing to the general prospect population?

In the case of **index-based ETFs**, we at least have the benefit of some historical evidence from which to base our views of the future. These products have successfully been engineered in a variety of forms and objectives, have passed through the rigorous process of regulatory vetting, and have passed the first test of early investor acceptance. When we begin to discuss the issue of actively managed ETFs, we are in entirely different forecasting territory. No **actively managed** ETF has yet been 'invented'. When/if the daunting technical hurdles are overcome, these new creatures will then have to run the gauntlet of skeptical securities regulators. Finally, when/if they are eventually brought to market, they will have to face what may be the toughest test of all: investor acceptance of a product that, despite its many potential benefits, may take a tremendous amount of educational effort before the general investing public can understand it well enough to embrace it.

Despite the aforementioned perils of prognostication, we realize that plans must be made against the backdrop of possibilities and probabilities even when they fall far short of our human desire for certainty and specificity. Indeed, the nature of all entrepreneurial endeavors is to attempt to make educated forecasts of future demand and to begin planning and building to meet that demand before it actually comes to fruition. The greatest business risk is often not the launching of a new

business endeavor based on limited information, but in waiting too long to act because of a desire for more information than is readily available.

The best information available today can only be found by talking to the specialists who have been actively involved in the creation, distribution and analysis of the first generation of exchange traded funds. This is still a narrow club with very few bona fide members. Many are talking about ETFs these days, but precious few have developed expert credentials through hands on involvement with their development. Indeed, it wouldn't be impossible to squeeze every ETF expert today into one large conference room.

As the anchor of our primary source research effort, FRC conducted in-depth face-to-face interviews with seventeen of these experts during late March. These specialists included representatives from the national wire-house brokerage firms, regional brokerage houses, Canadian brokerage firms, the American Stock Exchange and one Specialist firm. Each of these experts is intimately familiar with the exchange traded funds that have already been brought to market, and aware or involved to varying degrees with the expected creation of the next generation of ETFs. It may be hard to project precisely where these innovative products are headed, but nobody is better positioned to take a stab at it than this elite group of focused experts.

INDEX-BASED ETF OUTLOOK

Are Index-based (IB) exchange traded funds a significant challenge to index mutual funds?

Our experts agreed almost universally that they **already are** (85%). The remaining 15% believed that they would emerge as a meaningful challenge within the next three years. 70% expect that they are likely to take substantial market share away from index funds.

What existing businesses will be most challenged by the future growth of index-based ETFs?

Expectations here are that **retail fund managers**, particularly those with heavy index fund exposure, will face the greatest challenge (Vanguard & Fidelity were named). **Directly marketed funds** were seen as being more vulnerable than their broker sold counterparts, owing to the do-it-yourself nature of their customer base and their general openness to financial product innovations. ETFs will potentially be one more nail in the coffin of those mutual **funds that consistently under-perform**, and those that carry **distinctly higher** than average **expense ratios**. The mutual fund product lines of banks and insurance companies (traditionally perceived as mediocre performers) should also feel an added degree of pressure.

Conversely, what existing businesses do the experts believe will **benefit the most** from the future growth of IB ETFs? First, the **stock exchanges** and the **specialist firms** that are involved in supporting the trading activity in ETFs. They are already experiencing an explosion in trading volume. Indeed, ETFs already account for as much as two-thirds of the daily trading volume on the AMEX.

Second, **wirehouses, regional and discount brokers** are all expected to experience a **net benefit**. Here there will be some offsetting cannibalization, particularly relative to individual securities. ETFs are, nevertheless, seen more as complimentary rather than competitive products as long as the brokerages market them correctly. Brokerages are essentially supermarkets that sell every product available and are more interested in overall volumes than specific product mixes (as long as profit margins per item are reasonably comparable). ETFs could be a mechanism for brokers to increase volumes and steal some business away from the direct to consumer fund channel, since ETFs must be bought through a

broker and cannot be purchased directly from the sponsor or asset manager.

Fee based advisors will also benefit from the creation of a full complement of ETFs. The low cost and tax efficient nature of these products fits well with the investment approach of most advisors, particularly those serving the affluent investor segment. **Institutional money managers** will benefit by using ETFs as tools in the construction and management of their own mutual funds and separate accounts. Finally, the **index providers** will be rewarded substantially through the increased awareness of their brand names and through the licensing fees they will be able to charge competing ETF sponsors.

What new types of ETF products do the experts expect to see over the next year?

The next twelve months promise a blizzard of both new product-filing announcements and actual launches. The areas where development is most likely are new **sector** ETFs, followed by enhanced and leveraged products. New products based on other broad market indices are expected, and there is even a reasonable possibility that the first fixed income ETFs may be seen within a year. All of these new launches will continue to be **index-based**. As we will see later in the chapter, actively managed equity ETFs are not expected to be brought to market for quite some time (if at all).

Enhanced ETFs are similar to enhanced index mutual funds in that they are heavily weighted toward an index, but are tweaked slightly or modestly to overweight, underweight or filter some aspect of the index in search of marginally better returns. This additional level of screening is of course, a form of active management, but it falls below the somewhat nebulous threshold that would typically be used to define an actively managed fund. One goal of offering enhanced ETFs is to experiment with moving as far as possible toward the creation of actively managed ETFs, while still being able to apply, as much as possible, the mechanics and the regulatory "approvals" that have already made it through the SEC. Another goal is to break out of the pure commodity mode in which index funds and index-based ETFs compete. The index world tends to be one of tight price competition, low fees, and low margins. Tweaking the indices even a little allows asset managers to claim a differentiating value-added, and therefore provides them with the possibility of charging higher management fees.

Leveraged ETFs are similar to the leveraged index funds offered by such companies as Rydex Funds, Potomac Funds and ProFunds. Like enhanced funds, they are built around an index, but instead of adjusting or pruning the index, they either multiply or magnify its effects by a fixed percentage, or mute/reduce the returns of the index by a fixed percentage through the use of derivatives. For example, among existing traditional mutual funds the Rydex Nova Fund seeks to provide 150% of the return of the S&P 500, and the ProFunds Ultra Bull Fund tries to achieve 200% of the same benchmark. Conversely, the Rydex Ursa and ProFunds Bear Fund target a risk and return profile that is the inverse of the S&P 500, while the ProFunds Ultra Bear Fund shoots for an inverse correlation to 200% of the S&P. Leveraged ETFs are another way that sponsors can set themselves apart from the cut-throat fee competition that has taken over parts of the current ETF product spectrum.

What are the biggest obstacles to the future success of Exchange Traded Funds?

There are several, and a number of them are significant, but the biggest barriers concern actively managed ETFs. Index-based ETFs have essentially overcome the majority of the most fundamental points of resistance. They have solved the basic technical issues and have received consistent (though painfully slow) regulatory approval, while no actively managed version has yet to accomplish either.

Looking just at index-based products, 62% of experts consider **regulatory delays**, because of the lack of a generic SEC ruling, to be the greatest obstacle. 38% consider ETF **profitability** to be a substantial hindrance. This applies to the commoditized broad market indices, to the broker when selling to buy and hold investors, and to the fact that so far there is no significant trail offered on any ETF (though small trails are now being introduced). Finally, these experts expect that there will be an **educational** challenge that will retard early adoption of ETFs by the broad investing public. Substantial investments in investor communication and education will be required for ETFs to realize their full sales potential.

What percent of future index-based ETF business will be retail vs. institutional?

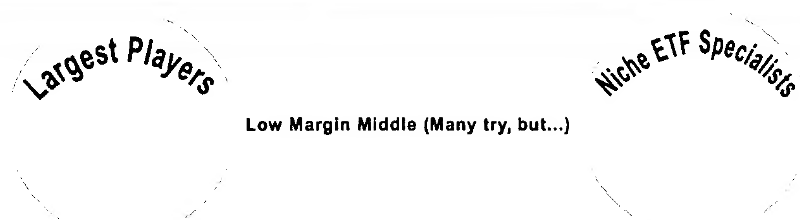
Index products in general have found institutional audiences to be more receptive than retail investors. Overall, indexers control between twenty and thirty percent of institutionally managed equities, while on the retail side, despite the explosion of interest over the past four years, they still have penetrated only 8% to 10% of the asset base. Retail involvement varies significantly across different ETFs, controlling the overwhelming majority of Nasdaq-100 shares, but holding only a modest minority of SPDR assets. Overall, the experts expect the **retail segment** to control between **50% and 60%** of aggregate index-based ETF assets over time.

How many fund companies will roll out their own ETFs?

Here we receive a wide variety of opinions ranging from just a few specialized fund companies to almost everybody. The majority expected only modest penetration into the fund industry with a few small or niche players and a few very large players offering ETFs in a reasonably limited number of investment objectives. However, a significant minority did foresee many or most companies creating products across a moderate to wide range of investment objectives.

While there was not a great deal of consensus about product development intentions, there was much more unanimity when we asked **which companies will it make sense for**? Here the experts look for a clear **barbell structure** to develop. Only the largest players with their deep pockets and a few niche ETF specialists with their focus and agility will ultimately be able to achieve sustainable profitability with ETFs on a stand-alone basis.

Who Will Succeed?



Which companies are most likely to enter the ETF arena?

These responses are not based on confidential knowledge of specific plans, but simply common sense judgment derived from general knowledge of each company's competitive strengths and weaknesses. **Vanguard** was named most often (and of course on May 12th they confirmed filing for nine ETF share class extensions to existing index funds). **Merrill Lynch** was expected to continue to expand its wildly

successful HOLDRs family. **Fidelity** and **Schwab** were also mentioned frequently because of their market dominance and their heavy exposure to index products (and in Fidelity's case, sector products as well).

Salomon Smith Barney and **Morgan Stanley** are considered likely candidates and **Nuveen** has already gone public with its explicit and aggressive intentions. Stray votes were cast for large mutual fund players such as AIM, T. Rowe Price, Franklin and Scudder Kemper. On the niche side of this scale, **ProFunds, Potomac** and **Rydex** were often mentioned together because of their specialization in servicing active traders.

Table 11: Most Likely Early Entrants to the ETF Marketplace

Vanguard	(announced 5/12)
Merrill Lynch	(expand HOLDRS)
Fidelity	(size, index funds, sector funds)
Schwab	(size, index funds)
Smith Barney	(file for internet ETF)
Morgan Stanley	(WEBS and OPALS experience)
Nuveen	(UIT strength, announced plans)
AIM	
T. Rowe Price	
Franklin	
Scudder Kemper	
ProFunds	(niche, active traders)
Potomac	(niche, active traders)
Rydex	(niche, active traders)

How much ETF promotional effort should we expect to see?

Since the creation of an exchange traded fund requires the cooperation of several different institutions, the burden of carrying promotional expenses can be spread out across different companies from different industries that all have a vested interest in the success of the common ETF product. Exchanges are expected to take the lead with moderate to heavy spending. During the first half of 2000, the American Stock Exchange has launched a very substantial advertising campaign to support all of the ETFs that it lists. Fund sponsors and fund companies are also expected to spend moderately to heavily on their own ETFs, and index providers will also chip in a low to moderate budget to promote the funds which license their names.

GROWTH FORECASTS FOR INDEX-BASED ETFs

Our group of experts expects that the current success of index-based ETFs will continue for at least the next several years, with **30% to 50% average annual growth rates** over the next one, three and five year periods. This would cause the ETF **share** of total indexed fund assets to **more than triple from today's 8% to as much as 27% in five years**. The average prediction for assets in **five years** was **$201 billion** (up from $35 billion at the time of the survey and roughly $40 billion as of 5/31 — excluding HOLDRs). The **most optimistic** forecast sees ETF assets reaching as high as **$500 billion**.

EXHIBIT 2
Index-based ETFs
Share of Total Indexed Fund Assets

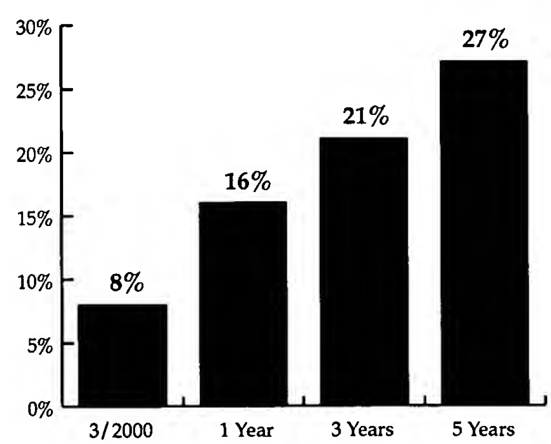
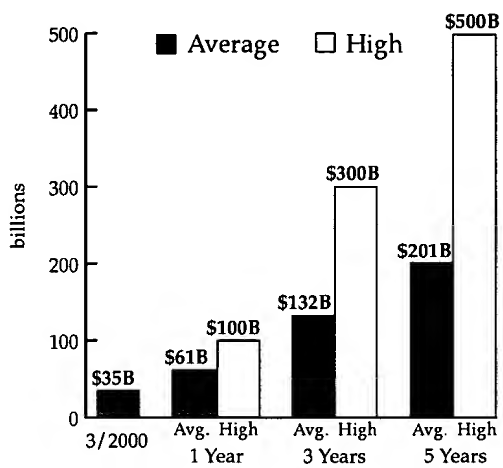


EXHIBIT 3
Index-based ETFs
Forecast Asset Growth



MISCELLANEOUS INDEX-BASED ISSUES

Can ETFs provide the necessary level of compensation to the distributing firm and the broker?

Half of our experts said yes, while the other half thought it was probable. One participant believed they might not be able to. Certainly this is an issue with the current batch of ETFs. Margins are tight on indexed products, especially on those tied to the broad generic indices. More specialized indices and international offerings can and do charge higher management fees than the bare bones 9 to12 basis points that S&P 500 linked ETFs have to contend with. Future enhanced products should be able to escape the commoditization squeeze, and actively managed ETFs should have even more expense leeway.

How important is the brand recognition of the underlying index to the success of an index-based ETF?

The overwhelming response here was that building an ETF around an established, recognized, independently maintained index was **extremely important**. Only the big, familiar names will carry much weight. This means that creating your own proprietary indices in order to build your brand and save on licensing fees will be a difficult business proposition. Sponsors will be forced to license the rights to the popular indices (S&P, Russell, Dow Jones, Morgan Stanley Capital International (MSCI), Financial Times, etc.). There could be a great deal of competition for a limited number of branded names. How many ETFs will an index provider allow to be linked to a single index? What if exclusive rights are sold? **Licensing fees could rise quite steeply** if ETF popularity really takes off.

Another advantage that the major indices have over the homegrown variety is their **liquidity**. For ETFs to work properly, they need to be built upon a very strong base of market liquidity in the underlying stocks. This requires a network of specialists and market makers who have confidence in the integrity of the index structure and an economic incentive to support it. Proprietary indices face a considerable challenge in fostering an underlying trading environment that is sufficiently stable and liquid to keep the NAV and market price of the linked ETF within a tolerable range of tracking error.

Are index-based ETFs inherently more tax efficient than index funds?

This is one of the most compelling potential benefits of ETFs to the taxable investor. So far ETFs have proven to be extremely tax efficient vehicles. As we discussed in Chapter Two, the unique ability to constantly purge the underlying portfolio of accumulated gains through the in-kind redemption process has caused ETFs to declare notably fewer and smaller capital gain distributions than comparable index funds. The important question is whether or not this is an intrinsic

advantage or whether it may somehow be influenced by recent historical circumstances.

Forty percent of our expert group believes that ETFs will **always** be **more tax-efficient**, while the other 60% believe that they will be under most circumstances. At the recent IIR Conference on ETFs (NYC 5/15), Richard Shapiro, a Tax Partner from Ernst & Young LLP, agreed that ETFs are the more tax efficient vehicle, though he did recognize that several traditional index fund managers (notably Vanguard's Gus Sauter) have vigorously argued to the contrary. For instance, an index fund that is consciously tax sensitive (most are not) and that employs all the tools at its disposal to minimize distributions (most do not), should be able to come very close to matching the tax efficiency levels that ETFs have been achieving.

If the tax advantage of ETFs gives them a competitive boost relative to index funds, then it also makes them a **potential threat to** another hot investment objective of the past two years: namely **tax-managed funds**. So far ETFs have provided even better tax efficiency ratios than many explicitly tax-managed non-index mutual funds. If ETFs can match this investment category's one significant differentiating feature, while at the same time providing lower costs, trading flexibility and all the other potential benefits we have examined, then it is possible that the $30 billion in tax-managed equity mutual funds may be vulnerable to future ETF penetration.

How will index-based ETFs perform if the stock market suffers a one day crash of 15 to 20% or more?

Critics of exchange traded funds (often traditional index fund providers) have argued that there is a meaningful risk that ETFs would falter if confronted with a sharp and sudden market decline, and that they might not be able to maintain an acceptable tracking proximity between the NAV and the market price. They may be able to do well under normal market conditions with plenty of liquidity, but not in a free-fall scenario with liquidity drying up unexpectedly.

So what do our experts think? 23% say there would be no tracking problem, while 62% believe there could be a 'small' but 'temporary' divergence. Meanwhile 15% conceded that there could be a 'moderate' divergence (unfortunately we did not capture specific magnitude or duration estimates). None of the experts we spoke to considered this to be a major problem under any realistic market crash scenario. At the 5/15 IIR Conference on ETFs, Jamie Farmer, a Strategic Planning Associate of Susquehanna Partners, a leading specialist firm working with ETFs, reported that none of the ETF products his firm supported had experienced difficulties, even during the several extreme one day market drops that occurred in April and May. However, none of these drops passed 10% in any given day despite their much larger cumulative effect on some indices (the Nasdaq being the most prominent).

ACTIVELY MANAGED ETF OUTLOOK

Now lets consider the very different 'future world' of actively managed exchange traded funds. This is where the speculative element of our forecasting effort really becomes evident and empirical anchors are few and far between. Nevertheless, our group of ETF experts has given a great deal of thought to how this breakthrough extension of the ETF structure might be translated into the world of active management. In addition, if/when it can be introduced, they explore what the implications might be for the established order of traditional financial instruments and institutions.

Will actively managed ETFs be a significant challenge to actively managed mutual funds?

One-third of the experts believe that they will within three years, while two-thirds believe that they probably will not be. Collectively, they **do**

not see a major threat any time in the near future. Only one expects a threat to emerge within the next year. The majority that does not perceive a near term threat is not necessarily saying that actively managed ETFs will not be created over the next three years. Only that they will not achieve a level of success within that time horizon such that they will have a meaningful impact on the established mutual fund order. Further down the road however, it is still a reasonable possibility that the pioneering products that are introduced over the next few years will gradually grow into a competitive threat.

If actively managed ETFs are offered, how does their growth potential compare to the growth potential of index-based ETFs?

About half of our group forecast AM potential in dollar terms to be about the same as IB, while the others expressed a wide mix of opinions across the spectrum of optimism to pessimism. Two experts believed that they would be substantially more popular. If the majority opinion is correct, then this means that **actively managed ETFs will have a dramatically smaller percentage impact on actively managed funds than is expected on the index side.** This is because actively managed equity mutual funds hold more than ten times the assets that are controlled by equity index funds. An equal potential in terms of dollar growth translates into a proportional impact on actively managed funds of only about 10% of the impact that index funds are projected to experience.

Could actively managed ETFs be the biggest breakthrough for retail fund investors since the creation of fund supermarkets?

This is one question where the expertise and active involvement of our participants could have created a positive bias. To the extent that these experts are connected to the invention and promotion of these instruments, they would have an understandable predisposition to characterize an issue that they are so passionate about in the glowing terms that the question suggests. Nevertheless, the question stands, and the responses are quite interesting even if we discount them somewhat. 23% said that AM ETFs would be the biggest breakthrough, 38% said they probably would, and 31% said they might. Nobody said that it was unlikely or that it definitely would not happen.

These responses raise two apparent contradictions that actually can be reconciled. First, how can actively managed ETFs be such a big breakthrough if they aren't going to have a very large percentage impact on actively managed fund assets? Second, how can they be such a big breakthrough for retail investors if they aren't necessarily a profit center for many fund groups?

If AM ETFs matched their IB counterparts and raised $200 to $500 billion within five years of their introduction, this would be a tremendous achievement that would surpass even fund supermarkets in terms of their first five years of asset growth. Nevertheless, these figures compare to a mutual fund industry that now stands at more than $6 trillion and could be several trillion dollars larger five years from now. **The fund industry is now so large that even 'revolutionary' developments have only moderate effects on it in aggregate** (though on the margin these developments can live up to their revolutionary credentials).

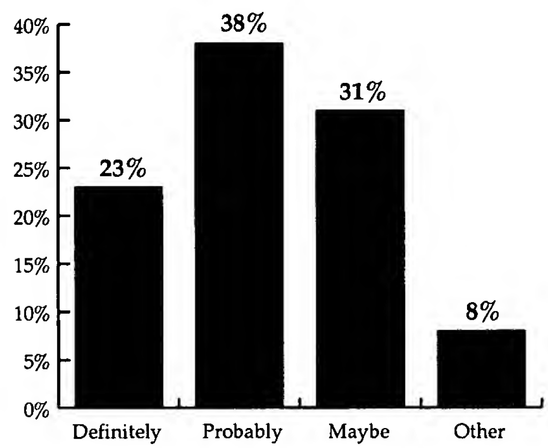
When asked about the chances that we might see the creation of an entirely **parallel industry** to mutual funds, with dozens of ETF families offering a wide range of their own actively managed ETFs, **50% thought it was reasonably likely**, 30% said it was possible but not probable, and 20% called it unlikely. Calling something a parallel industry doesn't necessarily make it a threat or a competitor. As is the case with variable annuities, many of the same asset managers who succeed on the funds side are also successful in distributing their services through VA's. There is no reason to expect that ETFs will be any different. **If a**

company's self definition is broad enough, it can embrace new innovations as extensions of its core business or an opportunity to distribute its product through other outlets. However, if a company rigidly sees itself as just being in the mutual fund business, then it will be threatened not only by ETFs, but also by VA's, separate accounts and any other structurally or legally different permutation of the basic concept of portfolio management.

As we speculate about the future of ETFs we need to be careful that we keep our reference points straight and maintain a sense of dimension and proportionality. Something that experiences compound growth of 100%/year for many years off a very small base (or from scratch) may be impressive by its own metrics, and may affect certain segments of the industry substantially and the whole industry meaningfully in terms of incremental growth, but still not be a threat to the industry itself. **We would be wise to discount the rhetoric we hear from some quarters intimating that ETFs could render mutual funds obsolete**. There is plenty of room to be suitably impressed by the revolutionary potential of ETFs and still recognize the size, scope, stability and flexibility of the mutual fund industry and its historical track record of innovation and adaptability.

Looking at the actively managed ETF breakthrough from the investor's perspective, we might go so far as to say that such a product would truly be a 'better mousetrap' — that its overall package of features and benefits is simply superior (for many but not all investor segments) to those offered by traditional mutual funds. If this is true, it will certainly be good news for investors, but that does not mean that it will be unadulterated good news for fund companies. In every economic transaction there is a tug of war around margin. Every basis point of management fee in the company's pocket is a basis point of lower return taken from the investor's pocket. A 'breakthrough' for the investor would be to cut his/her expense ratio in half. For the fund company on the other side of this transaction this means painful margin erosion. So **to the extent that ETFs create price competition, this can be great for the consumer, but it will create new challenges for those fund companies who cannot find a way to 'make it up on volume'**.

EXHIBIT 4
Actively Managed ETFs
Biggest Breakthrough for Investors Since Fund Supermarkets?

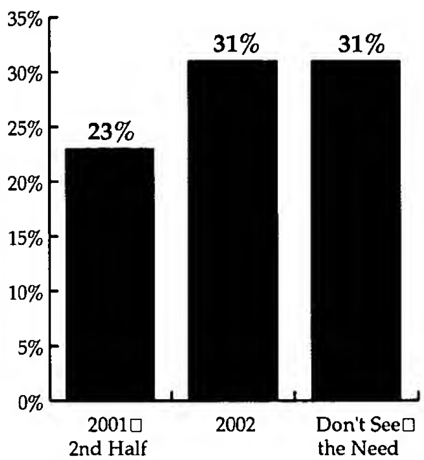


When should we expect to see the first actively managed ETFs?

Not for a while. 31% said that they don't even see the need to create them. This may be influenced somewhat by a degree of philosophical bias toward the quantitative approach to investment management that dominates the indexing world, but it is nevertheless a very important figure. Another 31% said we will have to wait until 2002, while 23% believe it could be as 'early' as the second half of 2001. Only one expert thinks it could happen within a year. These responses reflect both the time needed to overcome numerous structural and technical hurdles, and the arduous process of convincing the SEC that this

battery of innovations really will work as promised and that it is in the best interests of the investing public.

EXHIBIT 5
Actively Managed ETFs
When Will We See the First Generation?



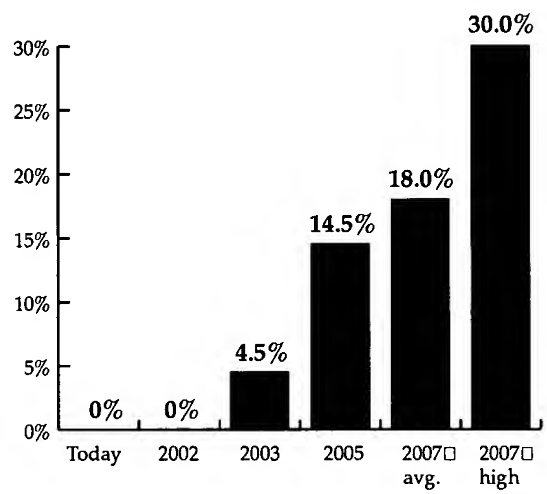
What percent of potential actively managed ETF business will be retail vs. institutional?

The average response was just under **80%**. This is far higher than the 50% to 60% figure expected on the index side. The main difference here is that institutions have an interest in index-based ETF products, but are not expected to have a high need for actively managed ETFs.

If actively managed ETFs were to be offered today, what market share of total equity fund assets would they control over time?

This was so speculative that half the experts would not even venture a guess. The average response for those that did gave AM ETFs **4.5%** share after one year and **18%** after five years. The highest guess was 30% in five years. Clearly, this group is not expecting ETFs to topple the traditional mutual fund industry. However, this relatively **small share of assets could translate into a very high share of net flows** during these years. If ETFs garner a large share of the incremental flows to managed products, this will place additional pressure on the majority of fund firms that have been seeing outflows or marginal inflows in the very concentrated marketplace of the past several years.

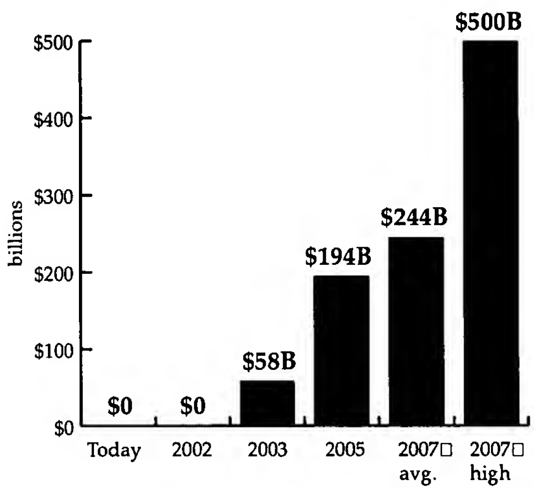
EXHIBIT 6
Actively Managed ETFs
How Much Share Will They Grab?
(Equity fund assets)



How large could actively managed funds grow in dollar terms?

Again, many hesitated even to guess. The average forecast was for assets to grow sharply in **the first year** to **$58 billion**, and then slow their growth trend somewhat to bring assets up to **$244 billion after five years**. The highest estimate here was $500 billion, exactly the same as the high estimate on the index-based side.

EXHIBIT 7
Actively Managed ETFs
How Large Could They Grow?
(Equity fund assets)



A FEW MORE OBSERVATIONS

We asked our experts to rate a wide variety of different investor groups, intermediaries and investment professionals for **their potential interest in or benefit from using ETFs** (whether index or active). In every case they saw the possibility of strong demand, reflecting the diverse benefits that ETFs offer and the wide range of applications where they can be an appropriate addition or substitute. **Institutions** (on the index side) and **fee-based advisors** (for both types) were seen as slightly more interested than other groups, while traditional brokers were the only group that was seen as potentially lukewarm in any way.

Table 12: Who's Interested in ETFs? It Seems Like Everybody!

Fee-Based Advisors	Very Strong
Institutions	Very Strong
Retail Active Traders	Very Strong
Retail Buy & Hold	Strong
Affluent Investors	Strong
Fund Investors seeking flexibility	Strong
Stock Investors seeking simplicity	Strong
Portfolio Managers	Strong
Traditional Brokers	Moderate/strong

Finally, we asked about the possibility of exchange traded funds being created for fixed income securities. **Half of our experts believe that the first fixed income ETF will be created within one year,** while the other half believed it would be accomplished within three years. This is distinctly more optimistic than when they considered the prospects for actively managed equity ETFs, although two doubted if it would ever happen or, if it did, they doubted that it would succeed.

In the next chapter we will explore the opinions of brokers and planners who are active users of exchange traded funds, to see where they concur with our experts and where they disagree. We will also take a close look at exactly how these early adopting professionals actually employ ETFs in working with their clients' portfolios.

V THE PIONEER'S PERSPECTIVE ON ETFs

Brokers & Planners that Use ETFs: Voice of the Investment Professional

In Chapter Four we examined the opinions of the financial engineers, product designers and analysts who have lead the way in bringing the first generation of exchange traded funds to market. In later chapters we will consider the views of several different segments of the retail investing public. This chapter provides an in-depth look at the perspectives of **financial intermediaries**. This is the group charged with translating the results of the innovative product development work being done by the financial engineers, into terms that investors can understand and portfolio applications they can benefit from. These pioneers are brokers and planners who are setting the pace in the integration of ETFs into the portfolios of their clients. We polled the views and practices of several-dozen investment professionals who are actively involved in managing money and providing financial advise to their clients. Survey responses were received throughout March 2000

PRACTICE SPECIFIC ISSUES

With this group of professionals our main goal is to learn how they are actually using ETFs to meet the needs of their clients and how they expect their usage to evolve over time. Many of these early adopters are quite passionate about the benefits of ETFs. Some go beyond just using them as part of their practice and have been acting as advocates for the expanded utilization of these products by others in their profession.

These brokers are not partial to any one ETF over another, but employ all of them as tools depending on their portfolio construction needs. In fact, they expressed a strong desire to see a substantial increase in the variety of available ETFs to cover the many investment objectives that are not yet served by these instruments. It isn't currently possible to build a fully diversified portfolio or to execute certain asset allocation strategies with ETFs alone because of the limited line-up that has so far been brought to market. This group is eagerly awaiting the introduction of Barclays iShares and the additional nine funds anticipated from State Street.

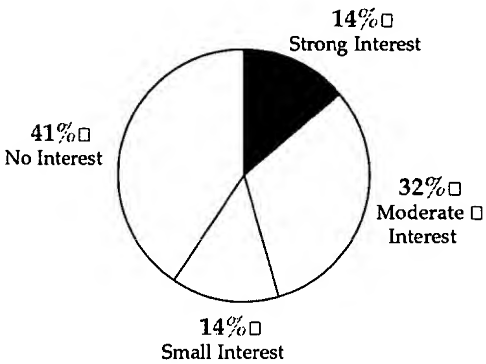
What new ETF objectives would brokers like to have access to?

It would be easier to list the ones they aren't interested in, since most would like to see ETF versions of every style and objective available through traditional mutual funds and even some additional ones that aren't. The most frequently mentioned indices were the **Russell** (1000, 2000, 3000 and 1000 Value), more from **Nasdaq** (particularly Biotech and Internet), more **international** (small cap, Latin America, EMU, Pac Rim, emerging markets and European region), other **S&P** sectors (small cap, Euro and Euro plus), other **Dow** sectors (tech, internet, media, telecom, biotech and pharmaceuticals) and U.S **bond** (intermediate, gov't/corp, 7 year duration max).

Do brokers want to see the creation of fixed income ETFs?

Opinions varied widely here. Forty-one percent had no interest, while 46% had a moderate or strong interest. While this is not an overwhelming vote of confidence for this asset class, it is certainly sufficient to motivate ETF product developers to be making plans to create such products. The biggest challenge here is that most bonds have much less liquidity than might be desired in order to maintain the trading viability and price correlation of the underlying instruments.

EXHIBIT 8
Do Brokers Want Fixed Income ETFs?



What percent of their clients use ETFs?

The average early adopting broker is currently using ETFs in **18%** of his/her clients' portfolios. This somewhat modest penetration reflects the newness of these products, the lack of coverage of most investment objectives, and the need to educate customers about the advantages of ETFs. We should expect that this figure will rise steadily over the next few years. This is not an issue of getting more brokers to begin using these products, but of brokers who are convinced of their merits finding more ways to use them, gaining access to a more robust variety of objectives, and then bringing their clients up to speed on the opportunities.

Notably, there were two advisors who had integrated ETFs into **more than 70%** of client portfolios. This represents a very significant business restructuring and shows that ETFs have the potential to become a core part of the business for many brokers and planners. When all the necessary objectives have finally been covered it is possible that we will see the emergence of advisory platforms constructed primarily with ETFs, supplemented by a few stocks and maybe a specialized mutual fund.

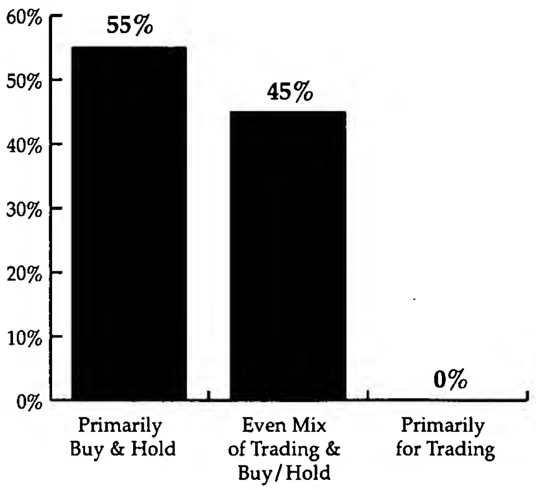
What percent of their clients' assets are in ETFs?

The average among our survey group is **11%**. This figure is lower than the client penetration percent because of the "experimental" nature of these products, lower investor familiarity with them, their short track records and, most importantly, because of the gaping holes in the spectrum of available styles and objectives. This figure should also rise steadily along with client penetration, and may see a sharp jump when Barclays' huge battery of new products finally becomes available.

Do brokers use ETFs purely as trading vehicles or as part of a longer-term buy and hold strategy?

Not one respondent indicated that the primary application for these products was to facilitate trading strategies. **Fifty-five percent** said their main reason for buying them was primarily for **long-term buy and hold** purposes. The other forty-five percent said they used ETFs for a roughly even mix between trading and buy and hold. Are ETFs an excellent vehicle for trading? Absolutely, but brokers and planners seem to believe that they are also a good choice for the implementation of long-term asset allocation strategies. In Chapters Six and Seven we will see that retail investors take the same perspective on this issue as our broker group does.

EXHIBIT 9
How do brokers use ETFs?



Exchange traded funds are frequently disparaged because of the ease with which they can be traded, as if efficiency and flexibility were a vice rather than a virtue. There will no doubt be a tiny minority who might feed their deleterious trading addiction with ETFs, but the overwhelming majority of wiser investors and the financial intermediaries they work with have no plans to increase their trading velocity in funds just because they can. Most ETF users employ these products in their portfolios in the same manner in which they use mutual funds. If they were a long- term investor before they bought an ETF, they are still a long-term investor afterward.

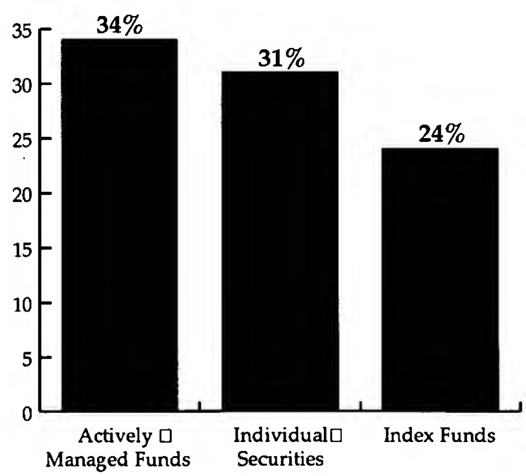
If these brokers and their clients were not using ETFs, what vehicles would they allocate these assets to?

Thirty-four percent said actively managed funds. This was the highest response and it clearly illustrates how these index-based products are already competing not just with index mutual funds, but with actively managed equity funds as well. We don't have to wait for the invention of actively managed ETFs to see non-index mutual funds threatened by ETFs. The threat has already arrived.

Individual securities were mentioned by **31%** of brokers as the primary source of funds for ETF purchases. This is an often over looked reality: that **ETFs are just as likely to take business away from individual stocks as they are to take it from stock funds**. They were designed with features from both worlds, and they can offer compelling benefits to investors who favor either one.

Index funds were mentioned as the primary targets for redistribution by 24% of brokers. This is certainly the most vulnerable mutual fund category with respect to the current crop of ETFs which are all index based. Chapters Six and Seven give us very similar results for different segments of the retail-investing marketplace.

EXHIBIT 10
What would brokers sell or forgo to purchase an ETF?



What are the most attractive features that ETFs offer?

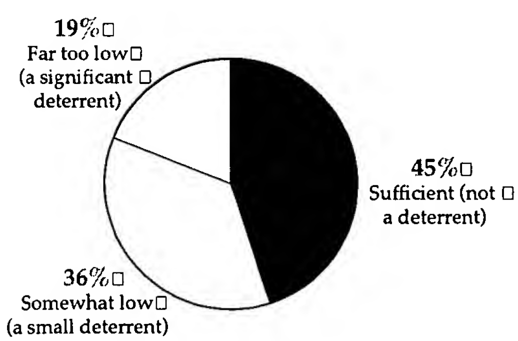
Brokers rated **continual pricing, low expenses, tax-efficiency** and **simplicity** as being of

moderately high to high importance, followed by access to **specialized indices** which was seen as moderately important. There was not a great deal of interest in the ability to margin or short sell.

How satisfactory is the compensation available from the sale of ETFs? Could it deter brokers from using these products?

Forty-five percent said the compensation was **sufficient** and that it would not be a deterrent to recommending ETFs over other products. However, fifty-five percent said that the compensation available was anywhere from somewhat low to very low and that this would range from being a small to a significant deterrent. Brokers can collect the commission for placing the trade, but generally there aren't any trail fees available (the Sector SPDRs and iShares (WEBS) do offer a modest 8 to 25bp trail).

EXHIBIT 11
Do ETFs Pay Brokers Enough?



There is definitely an issue here since even those brokers that use ETFs are not fully satisfied with their compensation potential. Look for future products to be created with more appealing payment structures designed to foster more broker interest. The compensation problem will tend to diminish over time as brokers increasingly convert to fee based businesses from being commission driven. The low fee structure of ETFs makes them perfect for inclusion in advisor wrap programs and fee based asset management practices.

How important is the brand name recognition of the underlying index?

Forty-five percent believe it is very important while thirty-six percent rate it as moderately important. These are significant figures, but they contrast somewhat with the virtual unanimity expressed by the ETF experts in Chapter Four. The experts believe that only branded indexes have any meaningful chance of success, but a number of brokers argued that many brokers, and even more retail investors, aren't familiar with "branded" indices. These **indexes may carry brand weight for institutions and professional money managers, but this does not translate nearly as strongly into the retail world**. Others recognized that branded indices may be needed in order to get the necessary support from specialists and market makers, but suggested that these index names do not necessarily have to be incorporated into the official name of the ETF.

How much interest do these brokers have in using actively managed ETFs?

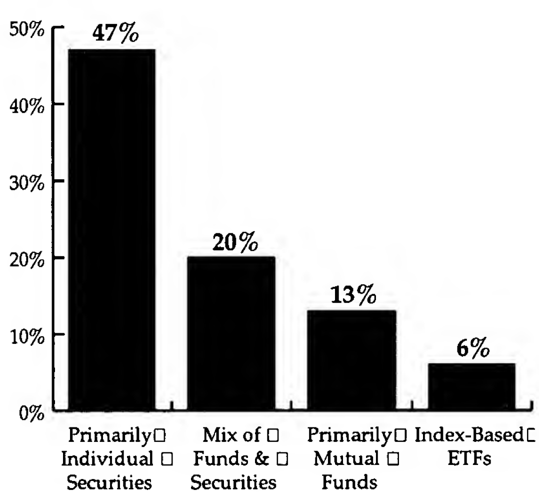
Opinions ranged widely here. One half expressed moderate or significant interest, while the other half saw it as just a niche product or had little or no interest. There is clearly sufficient preliminary interest here to justify the arduous engineering and product development efforts that are now underway at various pioneering firms around the country. However, these opinions have to be qualified by the speculative nature of the product under discussion. Since nobody really knows what actively managed exchange traded funds will look like, it is entirely possible that those expressing interest in them now will change their minds when they see what actually emerges. Conversely, it is also possible that those who say they would not be interested might have a very different opinion if what is

ultimately created turns out better than they envision it to be, based on our current limited knowledge.

For those brokers that are interested in an actively managed ETF, how would they expect to use them in their clients' portfolios?

Nearly half said they would use them primarily to replace **individual securities**, while only thirteen percent said they would be used primarily in place of mutual funds. This is a very revealing figure. From the perspective of these brokers, individual stocks are nearly four times more vulnerable to cannibalization by ETFs as traditional mutual funds. This is a consistent theme throughout this study. We find it echoed by every different interview group whether we are talking about index-based or actively managed ETFs. Mutual funds may lose money to ETFs, but it seems that individual securities will lose a lot more.

EXHIBIT 12
How Might Brokers Use Actively Managed ETFs? To replace:



ETF INDUSTRY OUTLOOK

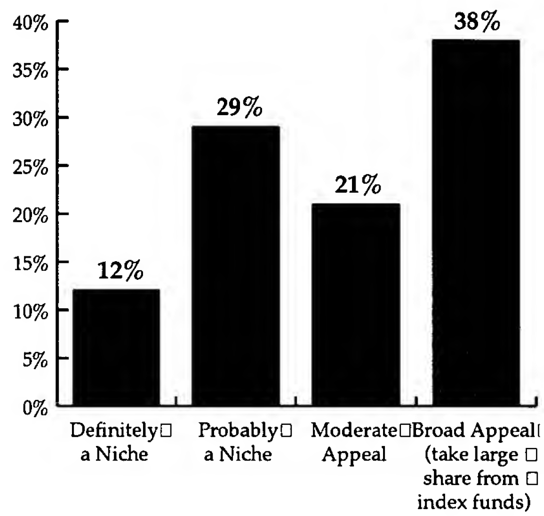
In Chapter Four we took a detailed look at potential future scenarios for ETF growth through the eyes of the product experts who are most qualified to make such a forecast. We also chose to ask our group of pioneer brokers and planners a subset of these same predictive questions. These financial professionals are primarily focused on the management of client portfolios, but they are well educated concerning developments in the ETF industry and have developed their own informed opinions about the relative strengths and future potential of these products. Overall, their **views tended to track fairly closely with our panel of ETF experts**, but their divergence in several areas make a valuable contribution to the debate about issues which have by no means yet been settled.

Index-Based ETFs

Are Index-based (IB) exchange traded funds a significant challenge to index mutual funds?

Sixty-one percent said they already are, while 31% said they would become so within the next 1-3 years. This is a less exuberant vote of confidence than we received from the experts (85% they are already). Only 38% of brokers agreed that index-based ETFs would take substantial share away from index mutual funds, compared to 70% of experts. **41%** of brokers believe that IB ETFs will probably remain as **niche products**.

Exhibit 13
Will Index-based ETFs remain a niche product?



What existing businesses will be most challenged by the future growth of index-based ETFs?

36% named **retail funds managers** and 19% named institutional assets managers, similar to the expert panel. Those with the highest index fund exposure, excessive fee rates and consistent performance problems were cited as being the most vulnerable.

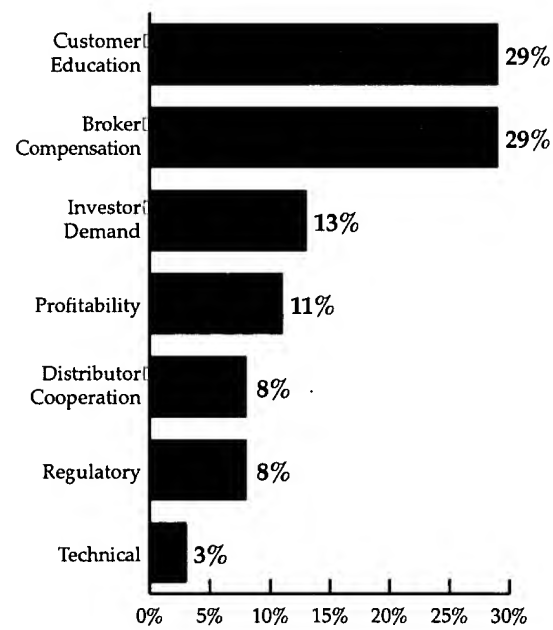
Conversely, what existing businesses do the investment professionals believe will benefit the most from the future growth of IB ETFs?

The responses were similar to those of our experts. **Wirehouses** were considered the best positioned to prosper from expansion of ETF usage, followed by **fee-based advisors**, the **exchanges, regional brokers** and **discount brokers**.

What are the biggest obstacles to the future success of exchange traded funds?

Brokers have a somewhat different perspective than the product experts. **29%** cited **customer understanding** or education as the biggest challenge (similar to the experts), but another **29%** named **insufficient broker compensation,** something that was much farther down the list of expert concerns. Of course, we would expect brokers to be more concerned about compensation issues than anyone else, but if payouts were satisfactory this wouldn't be an issue. Our broker group was not nearly as concerned as the experts with the technical and regulatory obstacles. This reflects the reality that these are the issues that our expert group is wrestling with on a daily basis and so they are, understandably, more sensitized to these challenges than respondents who are less involved with them.

Exhibit 14
What are the biggest obstacles to ETF success?



How many fund companies will roll out their own ETFs?

There was **no consensus** here. Roughly one third supported each of three fairly different views. **33%** believed that only a few specialized fund companies will enter the ETF business. **29%** foresee a modest number of entries from a few small and a few very large fund families in a limited range of objectives. Finally, **38%** expect a **substantial** number of fund groups will ultimately offer products across at least a moderate range of objectives. None of the respondents opted for the most optimistic scenario where most fund companies entered the market with a wide range of product offerings across most styles and objectives. These views roughly parallel those of the experts, except that the experts paint a more bifurcated picture with activity at both ends of the size scale, but not that much in the middle.

Which companies are most likely to enter the ETF arena?

Respondents overwhelmingly mentioned Vanguard (turns out they were right!), Fidelity and Merrill Lynch (already in with HOLDRs). These were followed in frequency by Charles Schwab, Janus, Morgan Stanley (already experienced with WEBS and OPALS), American Express, T.Rowe Price, Invesco, Salomon Smith Barney and Franklin. Single mentions were given to AIM, MFS and Scudder Kemper. On the niche side, Profunds, Potomac and Rydex were all mentioned together.

Which groups have the highest potential interest in or benefit from purchasing ETFs? Brokers agreed with the ETF experts that **fee-based advisors** would be the group most likely to embrace these products. This was followed by **affluent investors** and **individual security buyers** looking for simplicity and lower cost. ***Retail buy and hold investors were actually considered to have slightly higher interest in or benefit from ETFs than retail active traders.***

Once again we see evidence to contradict the prevalent myth that exchange traded funds are primarily a tool for traders and are not as compelling for those who don't want or need to avail themselves of the easy trading feature.

How large do brokers believe index-based ETFs can become over the next five years?

The average forecast in terms of annual growth rates over the next one, three and five years was roughly **forty percent** for all three periods, a figure that was right in line with the average expectations of our expert panel. Brokers believed that IB ETF **share of total index fund assets** would grow from 8% today to **25% in five years**, again in line with the experts. Finally, they predicted that assets would grow from $35 billion (at the time of the survey; $40 billion as of 5/31) to $187 billion in five years (slightly below the experts' average expectation of $201B).

EXHIBIT 15
Index-based ETFs
Share of Total Indexed Fund Assets
(Broker Views)

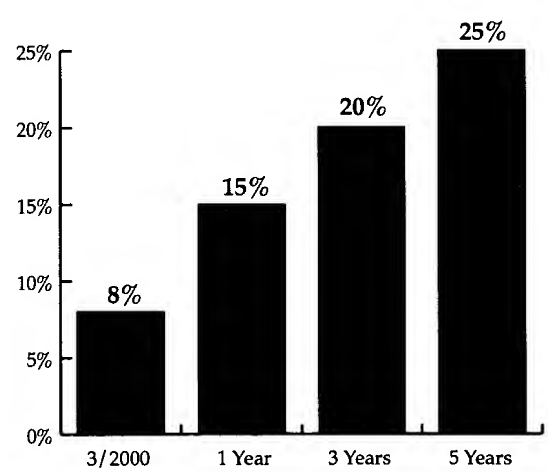


Exhibit 16
Index-based ETFs
Forecast Asset Growth (Broker Views)

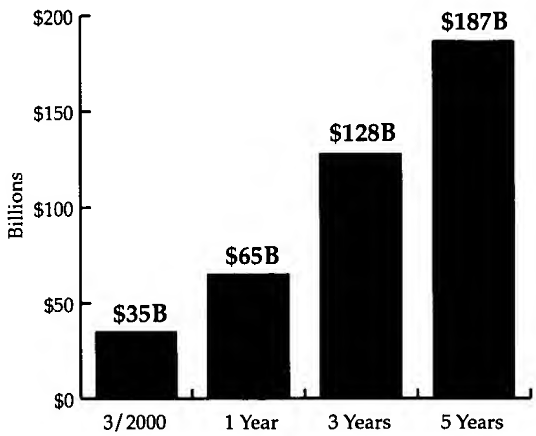
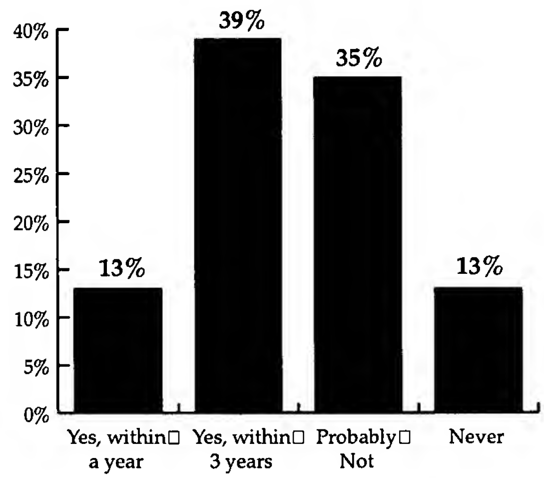


Exhibit 17
Actively Managed ETFs — A Threat to Actively Managed Funds?



<u>Actively Managed ETFs</u>

Will actively managed ETFs be a significant challenge to actively managed mutual funds? Broker responses split right down the middle with 52% agreeing that they would be within three years and 48% opining that they probably would not be. This is actually more optimistic than the product experts group, where only one third believed that a significant challenge to actively managed funds could be created within three years.

If actively managed ETFs are offered, how does their growth potential compare to the growth potential of index-based ETFs?

Again brokers did not present a consensus. 39% thought that the actively managed version would be moderately or substantially **more popular** while 35% thought it would be **less popular**, with 26% somewhere in the middle.

EXHIBIT 18
Actively Managed vs. Index–based ETFs
Relative Potential Popularity

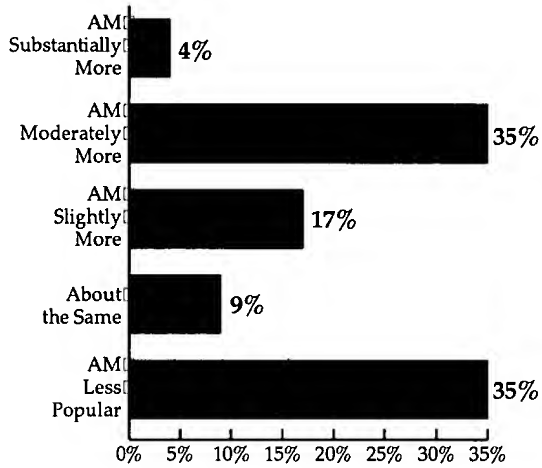
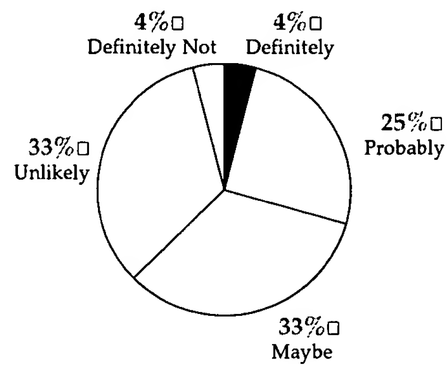


EXHIBIT 19
Actively Managed ETFs:
Biggest Breakthrough Since Fund Supermarkets?



Could actively managed ETFs be the biggest breakthrough for retail fund investors since the creation of fund supermarkets?

Brokers split into three camps once again. 29% said probably or definitely, while 37% said it was unlikely. The remaining 33% responded with a definitive "maybe". Clearly, with such divergent opinions it is hard to draw any firm conclusions. Brokers attitudes here were distinctly less optimistic than the product experts, none of whom rated such success as unlikely.

How large do brokers believe actively managed ETFs can become over the next five years?

Brokers are not quite as optimistic about the growth potential for actively managed ETFs as are the product experts. If/when ETFs are finally brought to market, brokers expect that they will grow to control **16.5% of total equity mutual fund assets within five years** of introduction, ending the period with **$158 billion**.

EXHIBIT 20
Actively Managed ETFs (Broker Views)
How Much Share Will They Grab?
(Equity fund assets)

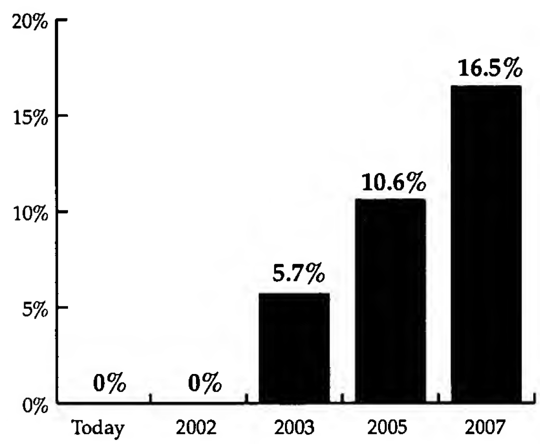
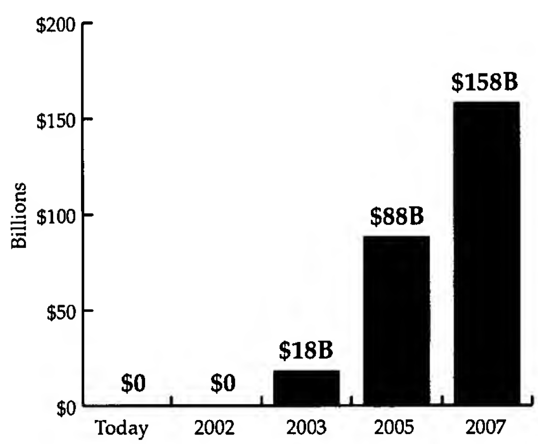


EXHIBIT 21
Actively Managed ETFs (Broker Views)
How Much Could They Grow?
(Equity fund assets)



In the last two chapters we have learned about the attitudes and expectations of two different groups of investment professionals. In **Chapter Six** we will begin our examination of the preferences of retail investors, starting with retail early adopters, and then moving on to the general retail investing population in **Chapter Seven**.

VI THE CONSUMER'S PERSPECTIVE ON ETFs

Experienced Retail Investors: Voice of the Retail Customer

In Chapter Four we examined the opinions of the financial engineers, product designers and analysts who have been pioneers in bringing the first generation of exchange traded funds to market. In Chapter Five we looked at a different group of leaders, those brokers and planners who are setting the pace in the integration of ETFs into the portfolios of their clients. Now we turn to a third group of "pioneers", namely those retail investors that have either actively inquired and educated themselves about ETFs (without yet purchasing one), and those retail investors that have actually made the decision to buy their first ETF.

In this chapter we probe the attitudes and behaviors of **retail investors** who have taken an **active interest** in exchange traded funds (defined as personally requesting information about World Equity Benchmark Shares or WEBS). These "early adopters" provide preliminary insights as to how ETFs may be used by retail investors in the future. **Not all participants have chosen to purchase an ETF**. Those who did not can, however, still be considered active or **informed inquirers** and thus differentiated from the general retail investing public which is generally unaware of the features and benefits of ETFs. Telephone survey responses were conducted from May 9-11, 2000.

Drawing conclusions about the behavior of the general investor from the attitudes or actions of early adopters is certainly not an exact science. There can be many characteristics of the typical early adopter of any product or service that makes them unrepresentative of other market segments.

Once again, however, we must use the best data available. Often we find that the opinions/attitudes of those who are actually doing or using something are more accurate predictors of the opinions/attitudes of future doers/users than the hypothetical opinions of those future participants taken before they actually took the step to buy or act. In the next chapter we will look at the hypothetical opinions of the non-ETF educated general investing public but, for now, lets consider what a group of actual retail ETF users has to say.

THE RELATIVE IMPORTANCE OF ETF FEATURES AND BENEFITS TO ACTUAL INVESTOR INTEREST

We presented respondents with a list of ETF features and benefits and asked them to rate the importance of each feature/benefit in their overall potential or actual investment decision. Our goal here was to gauge which features were most interesting or compelling or which had influenced the actual purchase decisions of these early adopters. These questions **reveal the benefits or capabilities that respondents value most**. The features we highlighted are:

1. **Continuous pricing** throughout the trading day
2. **Lower expense ratios** relative to actively managed mutual funds and most index funds
3. Greater **tax efficiency** than most mutual funds
4. Greater **trading and tax flexibility** than mutual funds
5. Comparable trading and tax benefits to individual stocks but with the built-in **diversification** traditionally associated with mutual funds
6. Ability to invest in an entire market **sector with one trade**
7. Access to market **sectors** and **indices** that mutual funds do not offer

We presented each feature/benefit one at a time and asked respondents to indicate whether it

would be of small/no, moderate, high or very high importance to them in their decision to purchase an ETF.

Among the **active inquirers** two benefits stood out as being particularly compelling: first, **lower expense ratios** and second, **tax efficiency**. Both were rated as being of **very high importance** in attracting this group to ETFs. These responses are nearly identical to the ratings given by general retail investors (see Chapter 7), except that this less knowledgeable group consistently placed tax-efficiency at the top of their motivational scale. Every other benefit listed was rated as being of high importance, indicating that this ETF educated group appreciates the full spectrum of competitive features offered by these products.

These potential early adopters are attracted to ETFs as a whole because they value each of the individual pieces in the package. It is important not to characterize these products as being primarily this or that, and then criticize them because the one feature highlighted may not be completely compelling on its own. ETFs are hybrid vehicles that speak to a wide variety of needs and interests. They do not have to be the only product or even the best product available along any one dimension in order to be popular. It is the package that counts. ETFs compete very well simultaneously across multiple investor needs.

Interestingly, the most common stereotyping of ETFs involves their portrayal as being primarily trading vehicles for the rapid-fire turnover crowd. However, of all the benefits we listed, the two that were least compelling to the active inquirers was the availability of continuous pricing and trading/tax flexibility. If ETFs were attracting primarily the trigger happy, then these features would be at the top of the list, not the bottom.

On this question, **retail purchasers** present a curious contrast to those who have educated themselves but not actually purchased. They were moderately less passionate about nearly every feature on the list. They still expressed moderate to high interest for all but one, but they did so in more qualified terms than those who have not yet purchased an ETF. It seems that they may have found the reality of their experience to be somewhat less impressive than they had expected. Their responses indicate satisfaction, but not excitement while, strangely, those who have not yet bought an ETF speak of their benefits with a distinct element of excitement. This is an issue to watch, but our sampling of actual retail purchasers is not yet of sufficient magnitude to draw any solid conclusions as to whether there may be a perceived gap between promise and delivery for ETFs.

Actual purchasers rated **diversification** (vs. individual stocks) and **the ability to purchase an entire market sector with one trade** as the most important attractions offered by ETFs. These were the third and fourth favorite characteristics for the active inquirers, but neither of them were among the top three for the general retail investor (see Chapter 7). **Lower expense ratios** were deemed very important by actual purchasers and active inquirers, but they were actually rated as the least important benefit by retail ETF purchasers. This is not completely surprising. Lower expenses definitely should be a key issue when we are talking investment theory. But in practice, when one is investing in the middle of a bull market, expenses tend to fall off the radar screen as the few basis points they represent on the downside are dwarfed by the actual upside return potential of various hot investment vehicles. A sustained flat or bear market may bring theory and reality about expense concerns closer together again.

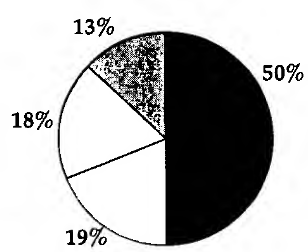
PURCHASE ACTIVITY & INTENTIONS

For non-purchasers

For those who **have not** yet purchased their first

ETF, we asked how interested they would be in doing so in the future. **Sixty-nine percent responded that they were either very or extremely interested**. They have done the research and have essentially become convinced of the merits of ETFs but for various reasons simply have not followed through on their intentions. It may be that they do not currently have the money, or that they need to establish a brokerage account first. Some may be convinced of the benefits of the ETF product structure in general, but uncertain as to which specific vehicle or investment objective they should choose. Still others may simply want to do a bit more research before acting.

EXHIBIT 22:
Interest in Purchasing ETF's in the Future



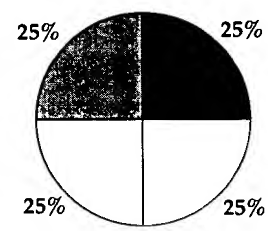
Amongst Active Inquirers Who Have Not Yet □ Bought an ETF

Extremely Interested
Very Interested
Somewhat Interested
Little or No Interest

For those who have made an ETF purchase

For those who **have** purchased their first ETF, we asked how interested they would be in doing so again in the future. Their responses split evenly with half being somewhat interested or less, and half being very or extremely interested. Again, this is against a small sample, but it does show something less than complete satisfaction amongst these early adopters. We do not know what is driving these attitudes. Perhaps some are confusing their disappointment with the particular vehicle or objective they chose with a sense of disappointment with ETFs as a product class. This survey was conducted in early May, after the Nasdaq had fallen very sharply from its most recent high. Retail ETF investors are most actively involved in the QQQ product based on the Nasdaq-100. Anyone who may have purchased a QUBE recently could be looking at some very substantial short-term losses that would tend to cloud their ability to dispassionately assess ETFs in general.

EXHIBIT 23:
Interest in Purchasing ETF's Again in the Future



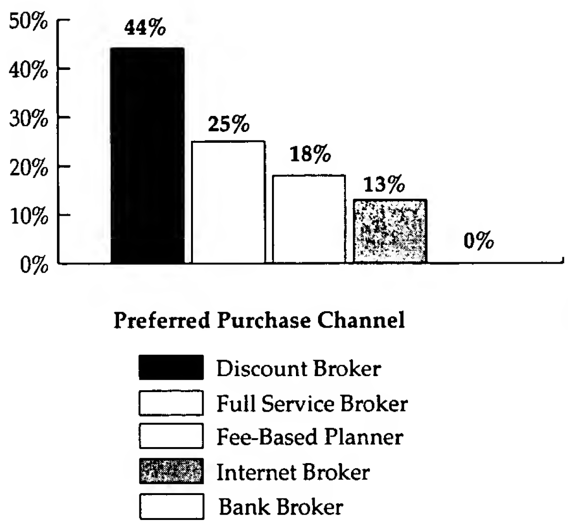
Interest in Purchasing ETF's Again in the Future

Extremely Interested
Very Interested
Somewhat Interested
Little or No Interest

Preferred Channel for Purchase

We asked non-purchasers what **primary channel** they would use if they were to purchase an ETF. Forty-four percent indicated a preference for using a discount broker followed by 25% who would use a full service broker. By comparison, among actual ETF purchasers, 50% used a discount broker to execute their trade, with the other 50% opting to use a full service broker.

EXHIBIT 24:
Preferred Purchase Channel



What investments would investors sell or forgo to purchase an ETF?

We asked this group of investors a similar question to one posed to brokers and planners in Chapter 5, and to the general retail investing public in Chapter 7: *If you were to buy an exchange traded fund, what investments might you replace or forgo in order to fund this purchase?* The response options for the other interview groups were not as detailed as those offered to the retail early adopters, and they did not allow multiple responses (which were available in this survey), so exact percentages cannot be compared across these three groups. However, all three painted exactly the same picture and it differs somewhat from the competitive landscape being described by many mutual fund industry observers in the press.

Sixty percent of respondents indicated that they would sell or forgo purchasing **individual stocks** in order to fund their ETF purchase. The brokers and planners we interviewed said that they have already been shifting assets from individual stocks as frequently as they have from index mutual funds. Our general investor group said that they were more likely to sell their stocks than to sell either indexed or actively managed mutual funds. Cumulatively, this makes a strong case that ETFs will draw more business away from traditional equities than from mutual funds. There is no doubt that both industries will be challenged, but discussion to date has tended to focus solely on the threat to mutual funds.

Table 13: What Would Retail Investers Sell or Forgo

Source of Funds for ETF Purchase (excludes cash balances and current income	
Individual Stocks	60%
Index Funds	20%
Actively Managed Funds	10%
Closed End Funds	10%

What percent of their assets have retail purchasers allocated to ETFs?

As expected, the amount is rather small so far. Three quarters of ETF purchasers have placed less than ten percent of their portfolio into these instruments, while the other quarter have allocated less than twenty percent. The average percentage across all respondents was 8%. This is very similar to the 11% average amount that pioneering brokers and planners have been allocating to ETFs within their client portfolios (see Chapter 5).

These are not unreasonably low figures given the newness of these products, and the fact that so far ETF offerings cover only a handful of investment objectives. As more products are brought to market, covering more of the full spectrum of styles and asset classes, and as the education process begins to bear fruit, we should expect to see these percentages rise steadily over time. This is not a question of getting more people to purchase ETFs, but rather an issue of getting those who are comfortable with ETFs to allocate a higher percentage of their portfolios to them.

Do retail early adopters use ETFs primarily as trading vehicles or do they form part of a longer-term buy and hold strategy?

There is unanimity between all three of our investor groups (broker/planners, retail users and general investors), with all three weighing in against the myth that ETFs are primarily tools for active traders. **Seventy-five percent** of our retail users/inquirers said their intention is to use these products **primarily for buy and hold purposes**, while the remaining 25% said they would use them for a mix of both long term and trading oriented strategies. Not one respondent said that their primary reason for buying an ETF was for trading purposes (out of a small sample). This compares to 55% of brokers and planners who are focused on buy and hold and 45% who use ETFs to serve both needs.

In the next chapter, we will expand substantially upon many of the issues raised in this chapter by our group of retail early adopters and educated inquirers, as we move on to take the pulse of nearly 900 retail investors who know little or nothing about exchange traded funds.

VII THE CONSUMER'S PERSPECTIVE ON ETFs

General Retail Investors: Voice of the "Prospect" Population

In the past three chapters we have examined the opinions and the practices of several different groups concerning exchange traded funds. In Chapter Four we began with the most knowledgeable and experienced group, those product designers and analysts who have been pioneers in bringing the first generation of ETFs to market. In Chapter Five we looked at a different group of pioneers, those brokers and planners who are leading the way in the integration of ETFs into their clients portfolios. Finally, in Chapter Six we looked at a third group of pioneers, those retail investors that have either already purchased ETFs or have been active inquirers and have educated themselves about this new product class.

In this chapter we attempt to gauge the awareness of the **general retail investing public** concerning ETFs and their attributes. We partnered with Market Facts, the nation's leading provider of custom marketing research, to survey nearly 900 investors (via telephone from April 7-9th). As expected at this early stage in their development, ETFs are still not well known by the overwhelming majority of investors. However, this survey highlights the attitudes of these qualified "prospective" investors toward the various features and benefits that ETFs offer, in order to rate how important these characteristics could potentially be in influencing future purchase decisions.

FAMILIARITY WITH ETFs

Out of a total pool of 2,000 respondents, 892 qualified based on the following criteria:

- They are the primary financial decision maker in their household or share that responsibility equally with someone else
- They have financial assets outside of a retirement plan

Of that group of 892:

- 532 (59%) Don't know/have never heard of ETFs or are slightly familiar with them
- 292 (33%) are moderately familiar with ETFs
- 54 (6%) are very familiar with ETFs
- 14 (2%) currently or previously owned an ETF

Table 14: Familiarity with ETFs

Level of Familiarity	% of Respondents
Do not currently own:	
Don't know	24
Never heard of or slightly familiar	35
Moderately familiar	33
Very familiar	6
Currently own (or owned previously)	2

The fact that nearly 60% of the general investing public is unfamiliar with ETFs is by no means surprising nor should it be discouraging. The figure that does surprise, and from which ETF promoters should derive some degree of encouragement, is the 33% who are moderately familiar with these new products. We believe that if this poll had been taken only six months earlier, this figure would have been significantly lower. The recent blizzard of press coverage, the prominence of the Nasdaq-100 (QUBES), and the American Stock Exchange's first major advertising push have put this category on the radar screens of 1/3rd of American households. Obviously, a tremendous amount of education remains to be done, and there may be a big gap between familiarity and the decision to purchase.

Table 15: Familiarity with ETFs by Investable Assets*

Level of Familiarity	Overall Average	<$50K	$50K <$100K	$100K <$250K	$250K+
Do not currently own:					
Never heard of or slightly familiar	35%	44%	33%	31%	34%
Moderately familiar	33	30	34	37	38
Very familiar	6	4	11	5	7
Currently own (or owned previously)	2	2	3	2	7

* *Read: "44% of respondents with <$50K of investable assets said they had never heard of or were only slightly familiar with ETFs vs. 35% of the overall sample." Here we have eliminated the "Don't Know" respondents.*

- **The level of familiarity with ETFs tended to rise with investable asset levels.** For example, 37% of respondents with $100K-$250K and 38% with $250K+ said they were "moderately familiar" with ETFs versus only 29% of those with the least amount of investable assets. And, 11% of investors with $50K<$100K said they were "very familiar" with ETFs compared with 6% of respondents overall. **What's more, 7% of respondents with $250K+ are current or previous owners of ETFs compared with only 2% of the population as a whole.**

THE RELATIVE IMPORTANCE OF ETF FEATURES AND BENEFITS TO POTENTIAL INVESTOR INTEREST

We presented respondents with a list of ETF features and benefits and asked them to rate the importance of each feature/benefit in their overall potential investment decision. Remember that 98% of respondents have yet to purchase an ETF and well more than half did not know what they were prior to our survey. Our goal here was to gauge which features were most interesting or compelling or spoke to the perceived needs of the general investing population. These questions **reveal the benefits or capabilities that respondents value most,** rather than their intent to purchase an ETF in order to access them. The features and benefits we highlighted are:

1. Continuous pricing throughout the trading day
2. Lower expense ratios relative to actively managed mutual funds and most index funds
3. Greater tax efficiency than most mutual funds
4. Greater trading and tax flexibility than mutual funds
5. Comparable trading and tax benefits to individual stocks but with the built-in diversification traditionally associated with mutual funds
6. Ability to invest in an entire market sector with one trade
7. Access to market sectors and indices that mutual funds do not offer

We presented each feature/benefit one at a time and asked respondents to indicate whether it would be a primary reason, a minor reason, or would not be a factor in their potential decision to purchase an ETF. As shown in Table 16, **tax efficiency, trading flexibility and lower expense ratios resonated most strongly** with respondents.

Table 16: Primary Reasons for Potential ETF Interest

	ETF Feature/Benefit	% Respondents Indicating Primary Reason for Potential Interest
1	Tax efficiency	55
2	Trading & tax flexibility	48
3	Lower expense ratios	46
4	Diversification	39
5	Invest in entire market sector	37
6	Access to sectors/indices not available w/mutual funds	35
7	Continuous pricing	26

- **Tax Efficiency**: Remember that this would relate to only about half of retail assets, since about 50% of household holdings of mutual funds are in tax-deferred accounts (401(k), IRA etc.). Indeed, most taxable assets are concentrated in the hands of the top quartile of wealthier households, with the majority of households having little or nothing in taxable accounts (since all they can afford to save goes into their tax-sheltered retirement plans).

  This high level of concern about tax-efficiency correlates with the emerging interest that investors have shown in the numerous tax-managed funds that have been introduced over the past two years.

- **Trading & Tax Flexibility**: Trading flexibility is important, but <u>not</u> continuous pricing. Why the apparent contradiction? This is actually a very important distinction that highlights why ETFs cannot be painted with a broad brush as being primarily designed to facilitate trigger-happy traders. Many early adopters may be using these as trading vehicles, but the general public seem motivated by the opportunity to take advantage of continuous pricing on a regular basis. Nevertheless, they do value the timing flexibility which, though not necessary to facilitate active trading, still gives them a sense of increased control and precision when they do ultimately decide to place their trades.

- **Lower Expense Ratios**: This is the one benefit that applies universally to every investor segment. Lower expenses are an equal opportunity advantage to every demographic cohort. This may be the anchor benefit upon which the ETF competitive package is built. An S&P 500 Index-based ETF is available from State Street for a total expense ratio of only twelve basis points (SPDRs), and one will soon be offered by Barclays for only nine basis points. These are lower than anything else available in the retail marketplace by an order of magnitude.

  Most other ETFs maintain similar cost advantages vs. their comparable index fund competition, and boast an even wider advantage vs. actively managed products. Much of this cost advantage is derived from the elimination of shareholder sub-accounting costs that burden traditional mutual funds.

Table 17: Primary Reasons for Potential ETF Interest by Investable Assets*

ETF Feature/Benefit	Overall Average	<$50K	$50K <$100K	$100K <$250K	$250K+
Tax efficiency	**55%**	62%	58%	52%	57%
Trading & tax flexibility	**48**	53	45	49	51
Lower expense ratios	**46**	45	50	49	48
Diversification	**39**	40	40	37	35
Invest in entire market sector	**37**	34	47	42	36
Access to sectors/indices not available w/mutual funds	**35**	36	44	31	39
Continuous pricing	**26**	32	22	18	36

* *Read: "62% of respondents with <$50,000 of investable assets said tax efficiency was a primary reason to purchase ETFs vs. 55% of the overall sample."*

- **There is not a great deal of variance in feature preference by *investable* assets.** Tax-efficiency, trading & tax flexibility and lower expense ratios are the top three benefits for every wealth segment.
- Investors with $50,000-$100,000 of assets rated "Access to sectors/indices not available with mutual funds" much higher than the overall respondent base. Smaller investors tend to be satisfied with the robust product array offered by fund families, while the affluent have better access to specialized or custom-tailored products. The mid-tier of investors is, therefore, more attracted to the opportunity to access new asset classes that were not available to them before.
- For investors with $250,000+ in assets, "Continuous pricing" was substantially more important than it was to the sample as a whole. This may imply that those with greater financial means are more comfortable within an active trading environment.

Table 18: Primary Reasons for Potential ETF Interest by Age*

ETF Feature/Benefit	Overall Average	18-34	35-44	45-54	55-64	65+
Tax efficiency	55%	59%	50%	58%	56%	55%
Trading & tax flexibility	**48**	47	46	52	52	43
Lower expense ratios	**46**	40	50	48	49	35
Diversification	**39**	36	41	51	28	23
Invest in entire market sector	**37**	29	46	33	37	40
Access to sectors/indices not available w/mutual funds	**35**	33	39	35	39	9
Continuous pricing	**26**	23	27	24	35	20

* *Read: "59% of respondents age 18-34 said tax efficiency was a primary reason to purchase ETFs vs. 55% of the overall sample."*

- There is only a **modest amount of variance in feature preference by age group**. Tax efficiency was the most important issue for each segment, with trading & tax flexibility and lower expense ratios a close second and third.
- Investors age 45-54 were much more interested in the diversification offered by ETFs than the sample as a whole.

- Investors over age 65 had almost no interest in access to new sectors and indices, indicating less openness to innovation or experimentation and a general satisfaction with the breadth of options already offered by mutual funds. These seniors were also distinctly less concerned about lower expense ratios or diversification benefits vis-a-vis individual stocks.

Table 19: Primary Reasons for Potential ETF Interest by Type of Brokerage Account*

ETF Feature/Benefit	Overall Average%	% Respondents Type of Brokerage Account	
		Full-service/ discount	Internet-based
Tax efficiency	**55**	55	60
Trading & tax flexibility	**48**	51	56
Lower expense ratios	**46**	49	54
Diversification	**39**	45	56
Invest in entire market sector	**37**	46	48
Access to sectors/indices not available w/ mutual funds	**35**	43	43
Continuous pricing	**26**	28	36

**Read: "55% of respondents who have a full-service or discount brokerage account and 60% who have an Internet-only brokerage account specified tax efficiency as a primary reason for purchasing ETFs vs. 55% of the overall sample."*

- **Respondents who have brokerage accounts of any type were more motivated than the sample average by every one of the ETF features and benefits we listed.** This makes sense since ETFs share many of the features of individual stocks and can only be accessed through a brokerage account.

  The need to go through a broker to purchase an ETF means that even as they may benefit asset managers who run the money, they will at the same time benefit the brokerages which will handle the trades, since investors cannot purchase them directly from the fund companies.

- **Internet investor passion for ETF benefits was distinctly higher** than for those respondents who invest via a full-service or discount brokerage account (which in turn was higher than for the non-brokerage enabled investors). This suggests that e-brokerage customers may be one of the best segments for ETF promoters to target.

FUTURE PURCHASE INTENT

After we described ETFs and presented respondents with a summary of their features and benefits, we asked respondents to indicate how interested they would be in purchasing an ETF in the future. **Forty-seven percent** of respondents indicated some level of interest in purchasing ETFs (see Table 20).

This is a very encouraging figure for this early stage of ETF development and awareness. Clearly, if ETFs can consistently deliver the potential benefits they promise, and effectively communicate and explain these benefits to the general investing public, then this suggests that **there is plenty of openness to consideration of these products.**

Table 20: Future Purchase Interest in ETFs

Level of Interest	% of Respondents
Not interested	48
Somewhat interested	40
Very or extremely interested	7

Future Purchase Intent by Household Investable Assets

Of the **7%** of respondents that indicated a **high level of purchase interest** for ETFs, the majority (65%) have household investable assets of less than $100,000 (excluding retirement plans). Forty-eight percent have assets of under $50,000. ETFs seem to have potential appeal across all wealth segments, including for the average small investor.

The 40% of respondents who indicated that they were **somewhat interested** in purchasing ETFs were evenly distributed across investable asset ranges as summarized in Table 21:

Table 21: Future Purchase Intent by Investable Assets

Asset Ranges	% of Respondents Indicating "Somewhat Interested" in Purchasing ETFs
<$25,000	39
$25,000<$50,000	40
$50,000<$100,000	46
$100,000<$250,000	46
$250,000+	44
Overall Average	**40**

* *Read: "39% of respondents with <$25,000 of investable assets indicated that they were somewhat interested in purchasing ETFs vs. 40% of the overall sample."*

- Respondents with between $25,000 and $50,000 of investable assets were modestly less likely than the overall average to indicate some level of interest in purchasing ETFs. This can be explained by the fact that smaller investors do not have sufficient resources to diversify much beyond the core holdings that form the foundation of a starter portfolio, and mutual funds already offer solid coverage of these areas.

Of course, smaller investors still do indicate interest levels that are reasonably comparable to wealthier cohorts. Even if they don't have the wealth to **supplement** their portfolios with **specialized** ETFs, they can still be interested in **substituting generic** ETFs for generic mutual funds.

Table 22: Future Purchase Intent by Age*

Age Group	% of Respondents Indicating "Somewhat Interested" in Purchasing ETFs
18-24	69
25-34	40
35-44	48
45-54	46
55-64	34
65+	13
Overall Average	**40**

* *Read: "69% of respondents age 18-24 indicated that they were somewhat interested in purchasing ETFs vs. 40% of the overall sample."*

Future Purchase Intent by Age

Younger investors are substantially more interested in purchasing ETFs than are older investors. Those aged 18-24 are five times more likely to purchase ETFs than those over 65 based on their own self assessment. Of course, the youngest age cohort controls only a tiny fraction of the wealth that the senior group does, so these figures do not necessarily indicate where to best target ETF promotional efforts.

The age gap here does correlate with the higher preference for ETF features indicated by Internet brokerage customers. It also makes sense in terms of the well-documented affinity of younger generations for new technologies and innovative products.

Table 23: Future Purchase Intent by Type of Brokerage Account

Type of Brokerage Account	% of Respondents & Level of Interest in Purchasing ETFs	
	Extremely/ Very Interested	Somewhat Interested
Full-service or Discount	10%	42%
Internet-based	18%	51%
Overall Averages	**7%**	**40%**

** Read: "10% of investors with a full-service or discount brokerage account and 18% with an Internet-only brokerage account indicated that they were extremely or very interested in purchasing ETFs vs. 7% of the overall sample."*

Future Purchase Intent by Type of Brokerage Account

- Table 23 demonstrates more explicitly that the overall level of **interest in ETFs is higher among consumers who invest via the Internet.** This group's response rates were substantially above the averages for the overall population whether they indicated that they were "extremely/very interested" or only "somewhat interested". **Sixty-nine percent** of Internet brokerage users **expressed at least some interest** in purchasing an ETF.
- 18% of respondents who have an Internet-based brokerage account indicated that they were extremely or very interested in purchasing ETFs, compared with 10% of respondents who have either a full-service or discount brokerage account.
- Similarly, 51% of investors who have an Internet-based brokerage account indicated that they were somewhat interested in purchasing ETFs versus 42% of those with full-service or discount brokerage relationships.

Who has an Internet Brokerage Account?

Given that respondents investing via the Internet appear to have a higher overall level of interest in ETFs than those that do not have an Internet-based brokerage account, we decided to probe more deeply to understand some of the characteristics of this segment.

- As Table 24 shows, respondents with an Internet-based brokerage account tend to be higher asset/income households. In addition, the primary financial decision maker is overwhelmingly male (67% of the time — not shown in table).
- As expected, younger investors are far more likely to use Internet brokerage accounts than investors in older age segments.

Table 24: Profile of Internet Brokerage Investors*

Have Internet Brokerage Account Overall Average	Investable Assets					
	<$25K	$25K<$50K	$50K<$100K	$100K<$250K	$250K+	
14%	13%	14%	16%	13%	24%	
	Annual Income					
	<$25K	$25K<$50K	$50K<$75K	$75K+		
14%	8%	10%	12%	22%		
	Age					
	18-24	25-34	35-44	45-54	55-64	65+
14%	31%	14%	17%	16%	10%	6%

* *Read: "13% of respondents with investable assets of <$25K, 8% with annual incomes of <$25K and 31% age 18-24 have Internet brokerage accounts vs. 14% of the overall sample."*

POTENTIAL IMPACT OF ETF PURCHASES ON COMPETING INVESTMENT VEHICLES

We asked respondents to tell us, if they were to purchase an ETF, which of the following investment vehicles might they replace or forego purchasing in order to invest in an ETF:

- Individual stocks
- Index mutual funds
- Sector mutual funds
- Actively managed funds that are not sector funds
  (Multiple responses were permitted)

Table 25 reveals several very important findings. First, that ETFs are actually **more likely to redistribute business from individual securities than they are from mutual funds.** Remember that ETFs are a hybrid of mutual fund and individual stock features. It is only natural that they will have a redistributive effect on both. The important questions are to what degree and in what relative proportion? Yet we never read stories claiming that ETFs pose a potential threat to the old model of individual security ownership or that ETFs have made buying stocks obsolete. Why then do we entertain this sort of unfounded speculation concerning the mutual fund industry?

As expected, within the fund world, index funds are the most directly threatened by ETFs, especially as long as all ETFs remain index-based. But their exposure to ETF competition is not that much more severe than **sector mutual funds** even though they are actively managed. The package of benefits offered by ETFs is sufficiently attractive to lure a very savvy, aggressive and performance oriented constituency from the arms of active managers into the world of passive management (indexing). Those fund **companies that have heavy exposure to sector funds should consider ETFs to be a very real threat**. Better yet, these firms should consider taking the lead

Table 25: Potential Impact of ETF Purchases on Competing Investment Vehicles

Investment Being Replaced/Foregone	% of Respondents Indicating They Would Replace/Forego Investment to Purchase an ETF
Individual stock	47
Index fund	41
Sector fund	38
Actively managed non-sector fund	35

in embracing ETFs as a logical extension of their branding as leaders in sector fund management.

This small table includes yet another blockbuster statistic. **35% of respondents indicated that if they were to purchase an index-based ETF they would do so at the expense of actively managed mutual funds** (non-sector). This means that ETFs are an equal opportunity challenge not only to their half brothers (index funds — 8% of mutual fund equity assets), but also to the entire extended family of traditional actively managed equity funds (92% of assets). We don't need to wait for the advent of actively managed ETFs for erosion of the bulk of mutual fund equity assets to begin. A challenger has already arrived.

Table 26: Potential Impact of ETF Purchases on Competing Investments by Investable Assets*

Investment Being Replace/Foregone	Overall Average	<$25K	$25K < $50K	$50K <$100K	$100K <$250K	$250K+
Individual stock	**47%**	47%	54%	60%	46%	37%
Index fund	**41**	45	26	59	29	40
Sector fund	**38**	37	29	47	37	36
Actively managed non-sector fund	**35**	32	28	47	24	42

* *Read: "47% of respondents with <$25K in investable assets indicated that they would likely replace or forego an individual stock investment in order to purchase an ETF vs. 47% of the overall sample."*

Potential Impact of ETF Purchases by Household Investable Assets

- Investors with $50K-$100K of investable assets were well above the overall averages for all the investment vehicles listed when asked which they would replace or forego to purchase an ETF. This means that they are least likely to fund their purchase out of cash balances or current income (the other major funding categories available).
- After investors with $50K-$100K of assets, respondents with $250K+ were the second most likely segment to replace or forego an actively managed non-sector fund in favor of an ETF.
- $25K-50K investors and those with $250K+ in assets were actually more likely to consider liquidating actively managed funds (non-sector) than index funds in order to fund their ETF purchase. We must keep in mind, however, that there are ten times as many actively managed equity assets available to be liquidated as there are index assets.
- Four of the five wealth segments were more likely to sell individual stocks than any form of mutual fund.

Table 27: Potential Impact of ETF Purchases on Competing Investment Vehicles by Age*†

Investment Being Replace/Foregone	Overall Average	18-24	25-34	35-44	45-54	55-64	65+
Individual stock	**47%**	51%	41%	58%	39%	39%	54%
Index fund	**41**	44	37	39	47	43	37
Sector fund	**38**	26	35	47	40	26	37
Actively managed non-sector fund	**35**	22	28	43	41	28	24

* *Read: "51% of respondents age 18-24 said they would replace or forego an individual stock investment to purchase an ETF vs. 47% of the overall sample."*

† *Very small sample size*

Potential Impact of ETF Purchases by Age

- Investors age 35-44 were most likely to replace or forego an individual stock investment in order to purchase an ETF. They were also the most willing to opt for an ETF over sector funds and actively managed non-sector funds. This seems to be an attractive age group for ETF marketers to target.
- Investors age 45-54 were markedly above average in their openness to replace or forego an index fund in favor of an ETF, followed closely by respondents age 18-24. In addition, 45-54 year-olds were second only to respondents age 35-44 in their willingness to choose an ETF over an actively managed fund.
- Four out of the six age segments were more likely to sell individual stocks than any form of mutual fund.

Potential Impact of ETF Purchases by Type of Brokerage Account (Table 28)

- Those investors that use Internet brokerages are far more likely than average to replace/forego all forms of mutual funds (index, sector and actively managed non-sector) in favor of ETFs, and are also more likely to do so than investors who trade via a full-service or discount brokerage account.

Table 28: Potential Impact of ETF Purchases on Competing Investment Vehicles by Type of Brokerage Account*

Investment Being Replace/Foregone	Overall Average %	% Respondents Type of Brokerage Account	
		Full-Service/ Discount	Internet-based
Individual stock	**47**	47	47
Index fund	**41**	45	50
Sector fund	**38**	39	53
Actively managed non-sector fund	**35**	38	44

* *Read: "47% of respondents with a full-service or discount brokerage account and 47% with an Internet-only account indicated that they would likely replace or forego an individual stock investment in order to purchase an ETF vs. 47% of the overall sample."*

VIII COMPETITIVE IMPLICATIONS FOR THE MUTUAL FUND INDUSTRY

The Index-Based Challenge: Present Tense Realities

Some commentators have opined that ETF's represent the "killer application" that will slay a mutual fund industry giant that has grown fat and lost the innovative touch necessary to compete in the age of e-commerce. They see ETF's as fundamentally superior products that are destined to eventually replace mutual funds.

There is no doubt that index-based ETF's offer several benefits that make them a compelling alternative to traditional mutual funds for many investors. It would not be an exaggeration to say that the financial engineers at the Amex have literally created a **"better mousetrap" for at least some segments of the investing public.**

FRC expects that index-based ETF assets will continue their recent dramatic growth rate for many years to come. Indeed, **we believe that ETF's may turn out to be the most significant new product category of this new decade**. But that does not mean that mutual funds will be disappearing any time soon, or that the overall viability of fund management companies is in any sense problematic.

Better mousetraps do not automatically replace older mousetraps. For example, numerous academics have made a compelling case that an indexed investing approach is superior to active management. Yet for their first twenty years, index mutual funds attracted little interest, and even in recent years, after their benefits have become widely known and appreciated, they still represent less than ten percent of total equity mutual fund assets.

Similarly, fund supermarkets have been accurately described as better mousetraps, with features that traditional closed-system fund families simply could not match. Yet despite their much-celebrated growth, supermarkets have not come close to eliminating old model distribution of mutual funds. **Index funds and supermarkets did not undermine the industry, but rather contributed to its rapid growth, and enhanced its ability to evolve and adapt to the needs of the investing public**. We expect that ETF's will follow the same pattern.

Are index-based ETFs a threat to fund companies? That **depends on the attitude of the company and how it defines itself**. If a firm looks at itself as only being in the business of managing and/or distributing traditional open-end funds, and does not have a vision for expanding beyond that narrow definition, then the growth of ETF's is most definitely a threat to their franchise, as is the growth of separate accounts and other vehicles that compete with traditional funds. However, if a company sees itself in broader terms, as a manager/distributor of pooled investment vehicles, **then ETF's do not need to be feared or fought, but rather embraced as a logical extension of their business and a mechanism to bring their asset management expertise to a new audience**.

Fund groups can no longer afford to define themselves in narrow structural or regulatory terms, because these are not relevant concepts to investors. They **must see themselves as asset managers who are in the business of providing investment vehicles to their customers in whatever forms they prefer, irrespective of legal structure**. This opens up the door to all categories of alternative products, including ETF's. We must remember that what we call "alternative products" today, may be mainstream growth drivers tomorrow.

Some claim that the mutual fund industry is ripe for reinvention. In many ways this is true. For instance, while the cost of owning stocks has dropped sharply, the cost of owning mutual funds has not declined meaningfully. **It is not a question of whether funds are a good value, but of whether they could easily become an**

even better value, and whether or not price competition and innovative features from new product classes such as ETF's will force them to bring that additional value to investors.

The greatest threat to a fund company from index-based ETF's is not necessarily to its assets, but to its margins. Assets can potentially be retained by offering one's own ETF's, but if this is successful, it will lead to substantial margin erosion for those assets that are converted from traditional high fee funds. The expense differences are dramatic. Most ETF's charge less than half the average of comparable index funds, and from one third to one fifth of actively managed funds. State Street recently dropped the fee on its popular SPDR to only 12bp, Barclay's new S&P 500 linked product has lowered the bar to 9bp.

Fee rates at these levels will mean that **only a handful of firms with extremely large scale will be able to manage index-based ETF's profitably on a stand-alone basis**, if we are considering only broad-base indexed products (specialized segments, enhanced or actively managed funds could be more profitable). But that doesn't mean that nobody else can benefit from offering even the most fee competitive versions. Many investors will only want to place a portion of their assets into these vehicles while leaving the rest in higher profit traditional funds. On an aggregate basis, these customers may still be profitable, and potentially worth the cost of offering the ETF as a retention device. This will, of course, require that companies develop mechanisms to keep their ETF's under one common branding, servicing and reporting umbrella with the rest of their mutual funds.

But why focus only on the potential to cannibalize your current business? **Why not look at index-based ETF's as an opportunity to bring individual security buyers back into the world of pooled vehicles and to re-capture the wallet share that has been lost over the past couple of years to the discount and on-line brokerages?** Households currently have more than $8 trillion in individual corporate equities compared to only $3.1 trillion in long-term mutual funds. Since ETF's are a hybrid of funds and individual securities, they are an ideal bridge to attract stock investors into (or back into) funds. Even a small portion of their stock holdings would go a long way toward providing needed scale economies for fund companies. And once they are back in the fold, the opportunity exists to cross sell higher fee products that might not have been considered before.

Until actively managed ETF's can be created, ETF's will **primarily draw business away from individual stocks, index funds, closed end funds, UITs and sector funds**. While they have already begun to take some business away from actively managed funds, the dollar amounts relative to total actively managed assets are still quite small. Those fund companies that don't have significant exposure to these more vulnerable areas have little short-term reason to fear cannibalization, but rather they have an opportunity to take business away from the large players in these product types.

Table 29: Vulnerable Asset Pools ($Billions)

Sector Funds	$271B
S&P 500 Index Funds	$248
Other Index Funds	$100
Equity Unit Investment Trusts	$ 85
Equity Closed End Funds	$ 63
Enhanced Index Funds	$ 38
Tax-Managed Equity Funds	$ 31
Total Pooled Investment Vehicles	$808
Individual Stocks	$8,009

* *Sources: ACCESS/FRC database; ICI, Federal Reserve*

The timing of index-based ETF product development efforts will be critical. Early adopters will likely benefit from a **substantial "first-mover" premium**. This will come from

a groundswell of free media coverage, and the opportunity to brand a firm as an innovator in a culture that seems to idolize innovation.

Index-based exchange traded funds will be a powerful force for change in the mutual fund industry over the next decade. As always though, change will mean a threat for some and an opportunity for others. Those who choose to embrace the change will be best positioned to succeed in spite of the potential threat.

The Actively Managed Challenge: Future Possibilities

It took a great deal of financial engineering and regulatory appealing to create the current class of index-based ETFs. It was a long process that took several years to initially pass muster with the SEC. Even after the first ETF was approved in 1993, **State Street Global Advisors** has had to continue to fine-tune its features in order to make subsequent product offerings more structurally appealing.

Five years after the first ETF introduction, all ETFs combined had raised less than $7 billion. **Arcane financial engineering may produce theoretically better products, but that clearly does not guarantee that their superior benefits will be quickly recognized or embraced by the investing public.** Finally, over the past two years, index-based ETFs have begun to capture both investor attention and significant assets, rising to nearly $40 billion as we go to press (May 26th ; excluding HOLDRs and non SEC-registered funds).

Clearly, index-based ETFs are about to break through into the mainstream-investing world. Yet amidst this flurry of product development efforts there is not one actively managed product to be found. **No one has yet to file a request with the SEC for anything other than index-based offerings**.

Actively managed ETFs have yet to be filed with the SEC **because nobody has yet been able to figure out how to create one**. Indeed, most financial professionals find it hard to conceptualize how such an instrument might be constructed even in theory. If you have tried and failed to grasp the concept, you have plenty of company. It seems that only a few rocket scientists at the American Stock Exchange, and a handful of the financial engineers who helped pioneer the index-based version, have the ability to envision the mechanics of putting together an actively managed ETF.

Of course, **even if the conceptual and technical issues can be worked out, there are very distinct regulatory hurdles that will then have to be faced**. Paul Roye, the director of the SEC Division of Investment Management, has already expressed pre-emptive concerns about actively managed ETFs from both a technical and a policy perspective.

On the **technical side**, Roye correctly notes that the mechanics of index-based ETFs require precise knowledge about what securities are held in the underlying portfolio so that specialists that support them can maintain appropriate hedging positions. How can equivalent information be provided for managed funds? This **would require real-time portfolio disclosure, and real-time public availability of all purchase and sale decisions by a fund manager, allowing others to copy and even undermine a manager's trading strategy**.

On the **policy side**, Roye is worried about encouraging the day trading of mutual funds, which have traditionally been viewed as long-term vehicles. He believes that if actively managed ETFs are permitted, they might engender "a short-term trading mentality in fund shares spilling over into the non-exchange-traded class of fund shares.

FRC does not believe that the ability to trade more frequently will necessarily lead many investors to meaningfully increase their trading velocity. But if the top fund regulator believes

otherwise, then **we should expect at best to see a continuation of the very lengthy approval periods that have been the norm to date for index-based ETFs.**

Nearly all of the experts we interviewed believe that index-based ETFs are a significant challenge to traditional index mutual funds, but **only one-third saw actively managed ETFs as a significant challenge to traditional actively managed mutual funds**. Those that did believe that the actively managed version would emerge as a meaningful challenge, however, **did not see it happening for at least two more years**.

Those most involved in monitoring the ETF world do not see the first actively managed ETFs being introduced any time soon. The most optimistic 25% don't expect to see these products brought to market until late 2001. **One-third think we will have to wait until 2002. Notably, one-third of these experts aren't sure if there really is a need to create this class of investment vehicles or else they are skeptical that anyone will ever be able to successfully engineer them.**

The biggest **obstacles** identified by this group were the same regulatory and technical challenges that the SEC's Roye has spoken about. Other significant obstacles listed were profitability and the need for investor education.

On the index-based side, expense ratios are razor thin, requiring substantial asset gathering ability to generate meaningful profits. However, **if actively managed ETFs are offered, they should probably be able to avoid the cut-throat margins of their index-based predecessors** just as they have been able to do on the traditional fund side. Nevertheless, there will be pressure to meaningfully undercut typical expense ratios for actively managed funds.

Even if actively managed ETFs prove to be a "better mousetrap" on paper, it will still take a tremendous amount of education to convince investors of these benefits. Although these instruments should be reasonably simple in terms of how they may be bought and sold, their structure will undoubtedly be extremely complex. Due to this factor, **it may take a great deal of time and money to bring average investors up to the comfort level necessary for them to make a purchase decision**.

Expectations for index-based ETF asset growth over the next one, three, and five years are very similar to those for actively managed ETF growth over the same periods, beginning with the introduction of the first products in this new class (still two years away). This means that **ETFs are currently expected to have a much larger percentage impact on traditional index funds than upon traditional actively managed funds**. Although the total dollar projections for both classes are roughly equal, actively managed funds currently hold ten times the assets of index funds, so actively managed funds should feel the effects of ETF growth proportionally that much less than index funds.

Over the next five years, our panel of experts forecast asset growth for **index-based ETFs** will accelerate moderately in terms of total dollars, but will slow in percentage terms to a range of 30%-50% per year. The average projection calls for assets of **$201 billion in five years** time, though estimates ranged **as high as $500 billion**. Consensus figures call for index-based ETFs to capture 27% of total index fund assets by 2005, compared to just 8% today.

If actively managed ETF products can ultimately be brought to market by 2002, the average expectation is for assets to grow rapidly during the **first year to $58 billion**. Early adopters will fuel this growth, transferring assets from individual equity holdings, a pool of as much as $10 trillion in assets by 2002, and equity fund holdings, a pool of about $4 trillion (household assets only — institutions excluded).

After that, the challenge of educating the majority of investors will take over, causing growth rates to fall to the range of 30%-50% annually, and bringing total actively managed ETF assets to **$244 billion five years out in 2007**. Here again, estimates ranged **as high as $500 billion.**

It should be noted that these forecasts on the actively managed side are highly speculative and are based far more on educated guesses than upon carefully constructed models with reliable input parameters. Such is the nature of predicting the growth of something that has not yet been invented.

What should fund companies be doing?

Despite the many obstacles that face actively managed ETFs, **FRC believes it is reasonable to assume that the technical problems will eventually be overcome and that the regulatory barriers will also eventually be surmounted**. Today it can take as long as 12-18 months for an index-based application to pass muster with the SEC, despite the fact that the SEC has already approved 30 products that are substantially similar. Look for all new ETF innovations, especially any actively managed version, to take at least this long, and maybe much longer.

We expect that the SEC won't wait too much longer before it creates new rules that would expedite the current application process at least partially, but there are no guarantees. **Since actively managed ETFs present a whole range of new issues and concerns, these products will probably not benefit from any loosening of the case-by-case scrutiny that their index-based counterparts may eventually enjoy**. Indeed, it is possible that actively managed applications will not just be delayed, but that they might not receive approval at all.

Can fund companies afford to wait and see how things unfold? For many, the answer may be yes. **ETFs represent more of an evolution than a revolution**. The difference between the two is time. Evolutionary change can be quite substantial, but it unfolds at a pace that allows some deliberation and planning in response.

FRC believes that over time both classes of ETFs will become substantial competitors to traditional mutual funds and other investment products. This does not however mean that they are necessarily a threat to traditional asset management companies. Rather, **we view ETFs as a logical extension of what the fund industry already offers**. This is just another significant innovative step in the evolution of an industry that has consistently shown flexibility and a **willingness to transform itself over time** in order to continue to meet the changing needs of the investing public.

On the index-based side, the competitive trend is well underway. If a company sees indexed products as a meaningful component of its business strategy, then the time to begin product development efforts in this area is now. However, **those firms that are committed to an exclusively actively managed approach may still have a window of time to monitor developments** before they need to actively pursue their own development plans.

Firms that want to exercise market leadership should **consider beginning an active research effort now in preparation for ETF development down the road**. This is true even if firms don't see themselves as indexers. There is a big learning curve that must be worked through with these products. Their creation is far more complicated than anything most product development departments have had to deal with in the past.

It would be **wise for firms to "incubate" a knowledge base** about how these products are constructed. Begin now with even a single index fund, then migrate up to an enhanced index fund as the technical difficulties with this are worked out (expected by year-end).

When or if the technical and regulatory

challenges to actively managed ETFs are overcome, firms will then be ready to move quickly to capitalize on these breakthroughs and have a chance to capture some of the first mover premium which these products are likely to offer.

Graphical Growth Comparisons

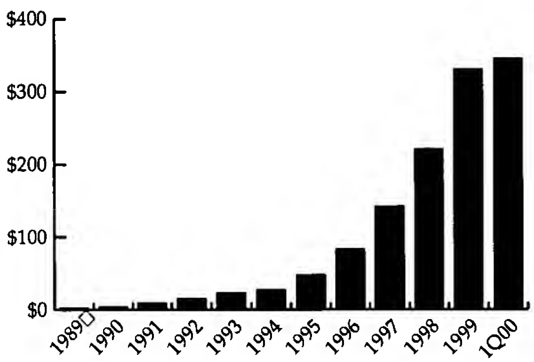
The remainder of this chapter consists of a series of time series graphs examining the growth trends of other mutual fund product categories that most closely parallel the features offered by ETFs. It also includes a look at the growth or adoption trends of other innovative products/services that are have been noted for their success in recent years.

If we compare the growth forecasts offered by our panel of ETF experts and those provided by the financial professionals (brokers and planners) to the trends illustrated by these graphs, we can see that **ETFs compare very favorably to most comparable categories, and to the most successful products of the past decade**. They certainly look much stronger than Closed-end Funds, Unit Investment Trusts and Enhanced Index Funds, and compare favorably to Tax-Managed Funds and even Sector Funds in their early years. Their forecast growth places them on a line to match the success that traditional index funds experienced over the second half of the 1990's.

In its early years, Schwab's Mutual Fund Supermarket, arguably the most significant financial services innovation of the 90's, clearly outperformed the asset gathering ability of index-based ETFs. However, **our expert forecasts could bring index-based ETFs to roughly the same size as the Schwab Supermarket in five years**, with actively managed ETFs more or less reaching this same level a few years later. **By 2007, our expert forecasts predict that total ETF assets (index-base + actively managed) will range from $445 billion to $1 trillion**.

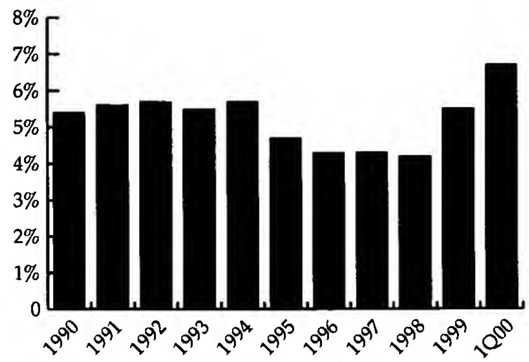
As we discussed in Chapter Four, forecasting is certainly an imprecise endeavor. We offer these graphs to provide the reader with some parameters and reasonably comparable historical examples from which each person can seek to base their own views about the possibilities and probabilities of different ETF growth scenarios.

EXHIBIT 25A
Growth of Equity Index Fund Assets
Assets in Billions of Dollars



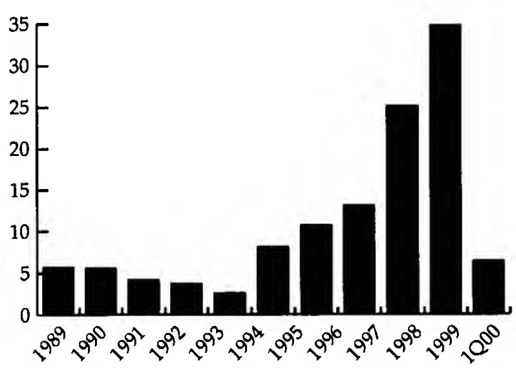
Source: ACCESS/FRC Database

EXHIBIT 25C
Equity Index Funds
Net Flows in Billions of Dollars



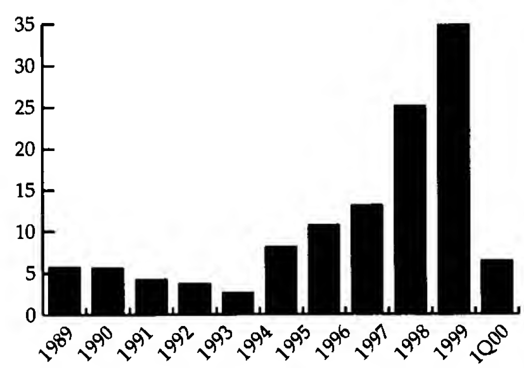
Source: ACCESS/FRC Database
** First quarter 2000 actual multiplied by four.*

EXHIBIT 25B
Equity Index Funds
Share of Total Industry Equity Assets



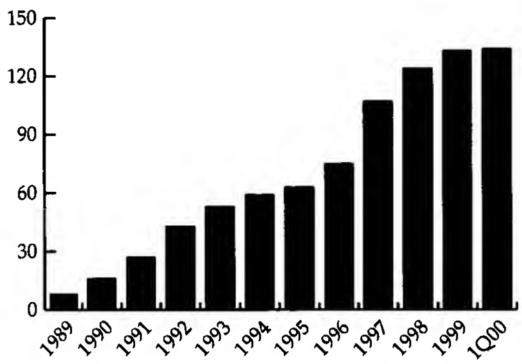
Source: ACCESS/FRC Database

EXHIBIT 25D
Equity Index Funds
Share of Total Industry Equity Net Flows



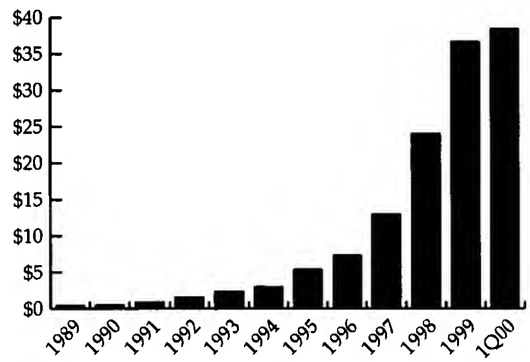
Source: ACCESS/FRC Database

EXHIBIT 25E
Equity Index Funds
Number of Portfolios



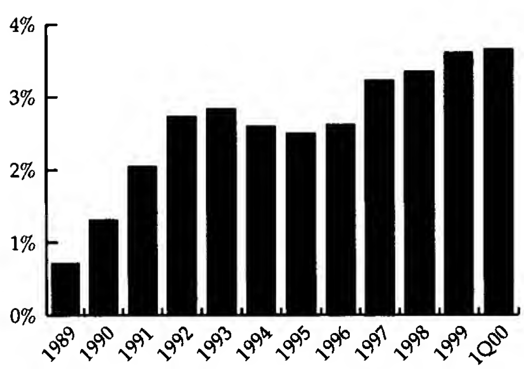
Source: ACCESS/FRC Database

EXHIBIT 26A
Growth of Enhanced Equity Index Funds
Assets in Billions of Dollars



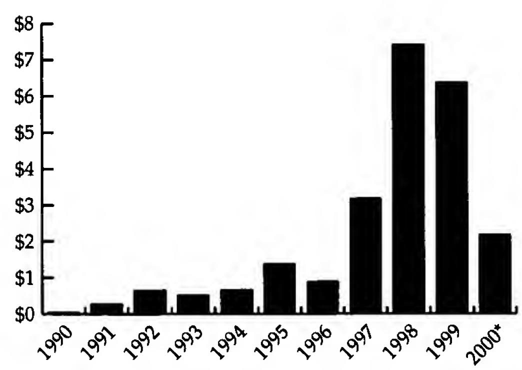
Source: ACCESS/FRC Database

EXHIBIT 25F
Equity Index Funds
Share of Total Industry Equity Portfolios



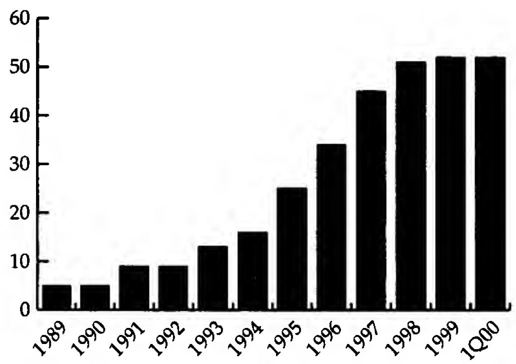
Source: ACCESS/FRC Database

EXHIBIT 26B
Enhanced Equity Index Funds
Net Flows in Billions of Dollars



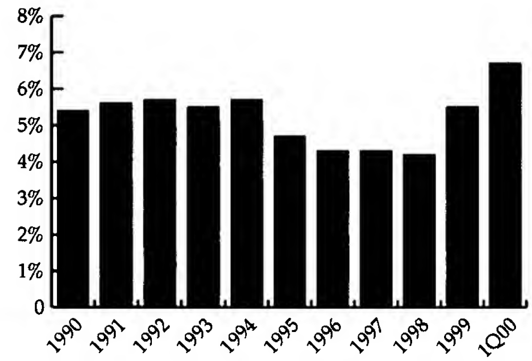
Source: ACCESS/FRC Database
** First quarter 2000 actual multiplied by four.*

EXHIBIT 26C
Enhanced Equity Index Funds
Number of Portfolios



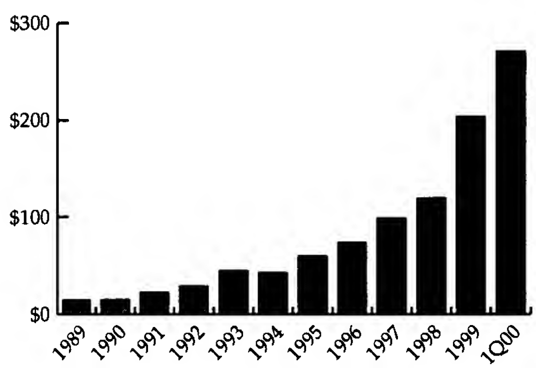
Source: ACCESS/FRC Database

EXHIBIT 27B
Sector Funds
Share of Total Industry Equity Assets



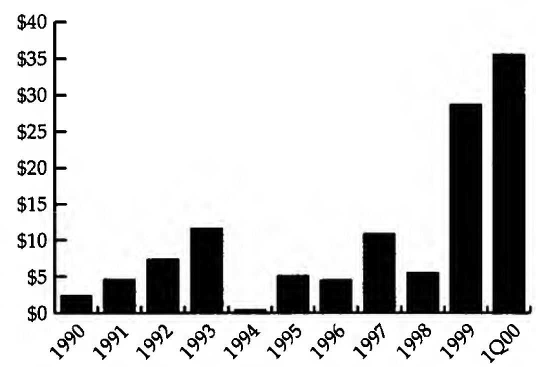
Source: ACCESS/FRC Database

EXHIBIT 27A
Growth of Sector Funds
Assets in Billions of Dollars



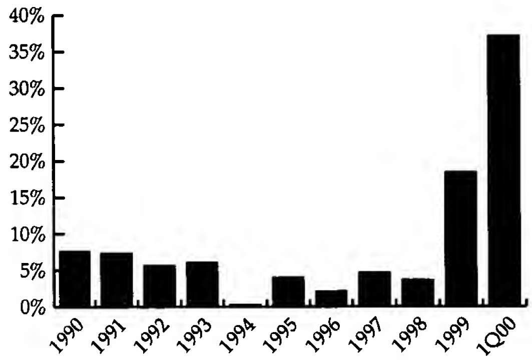
Source: ACCESS/FRC Database

EXHIBIT 27C
Sector Funds
Net Flows in Billions of Dollars



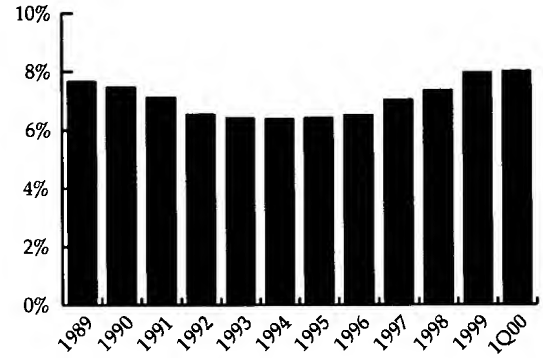
Source: ACCESS/FRC Database
** First quarter only versus earlier full year figures.*

EXHIBIT 27D
Sector Funds
Share of Total Industry Equity Net Flows



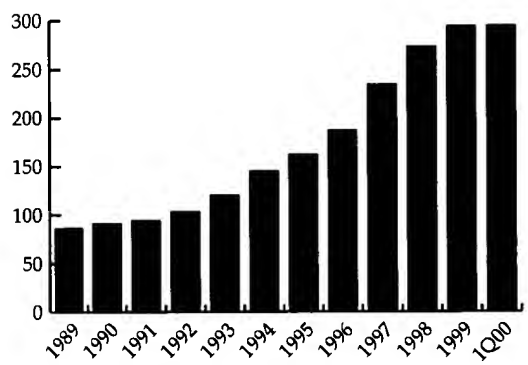
Source: ACCESS/FRC Database

EXHIBIT 27F
Sector Funds
Share of Total Industry Equity Portfolios



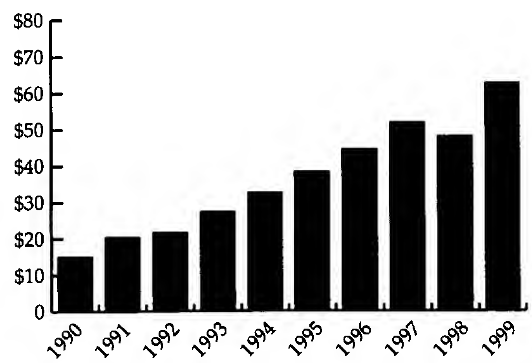
Source: ACCESS/FRC Database

EXHIBIT 27E
Sector Funds
Number of Portfolios



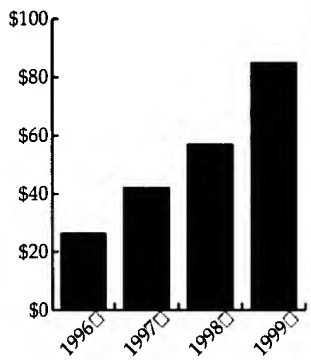
Source: ACCESS/FRC Database

EXHIBIT 28A
Growth of Closed-End Equity Funds
Assets in Billions of Dollars



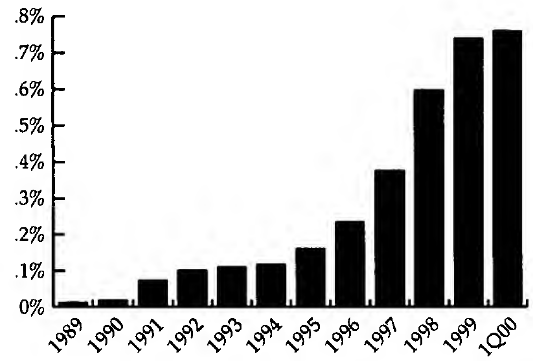
Source: www.ici.org

EXHIBIT 29A
Growth of Equity Unit Investment Trusts
Assets in Billions of Dollars



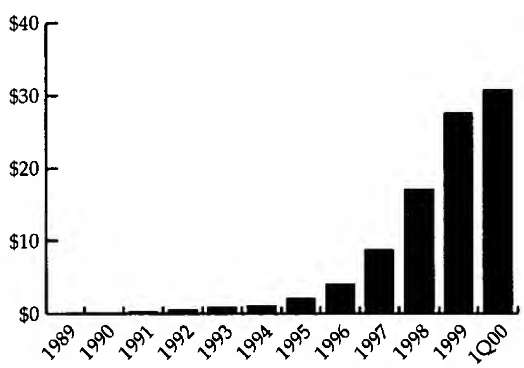
Source: www.ici.org

EXHIBIT 30B
Tax-Managed Equity Funds
Share of Total Industry Equity Assets



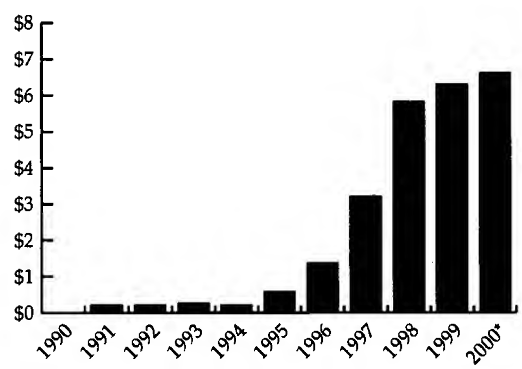
Source: ACCESS/FRC Database

EXHIBIT 30A
Growth of Tax-Managed Equity Funds
Assets in Billions of Dollars



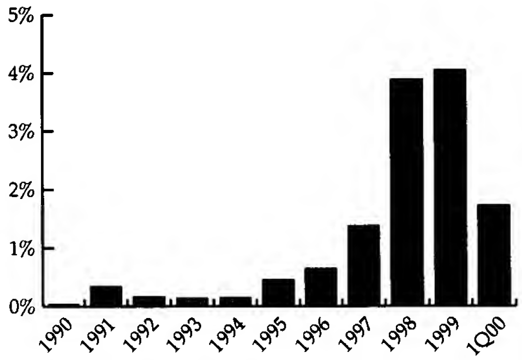
Source: ACCESS/FRC Database

EXHIBIT 30C
Tax-Managed Equity Funds
Net Flows in Billions of Dollars



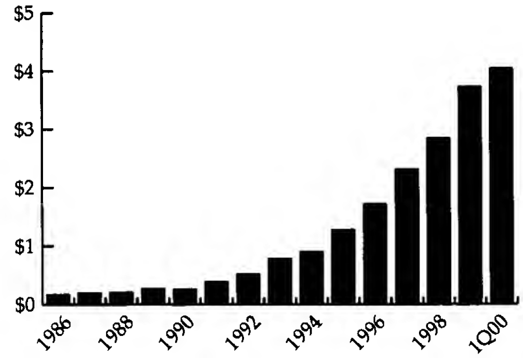
Source: ACCESS/FRC Database
** First quarter 2000 actual multiplied by four.*

EXHIBIT 30D
Tax-Managed Equity Funds
Share of Total Industry Equity Net Flows



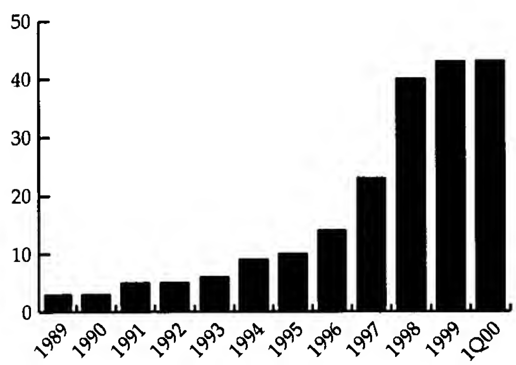
Source: ACCESS/FRC Database

EXHIBIT 31A
Growth of Equity Mutual Funds
Assets in Trillions of Dollars



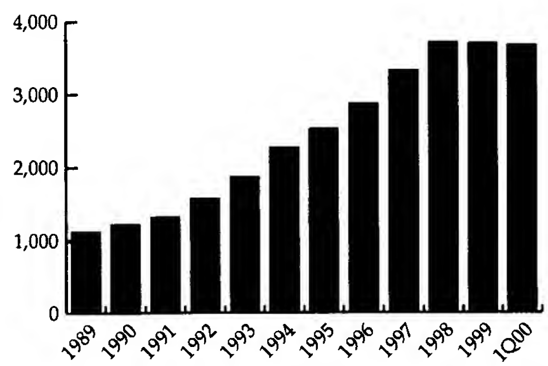
Source: ACCESS/FRC Database

EXHIBIT 30E
Tax-Managed Equity Funds
Number of Portfolios



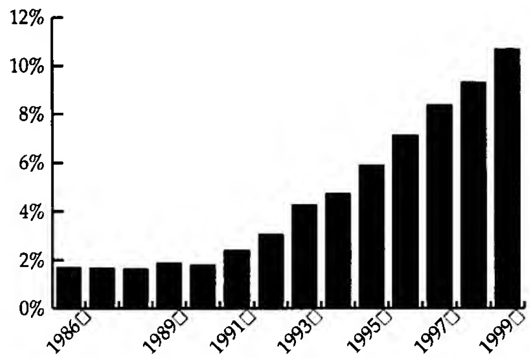
Source: ACCESS/FRC Database

EXHIBIT 31B
Equity Mutual Funds
Number of Portfolios



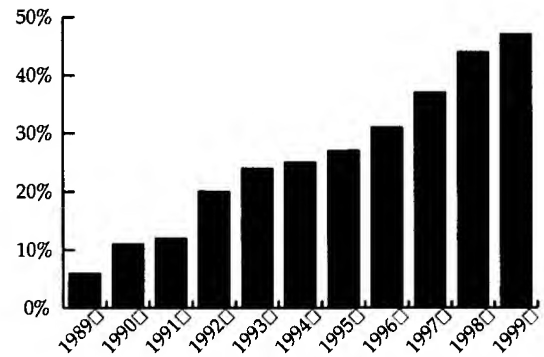
Source: ACCESS/FRC Database

EXHIBIT 31C
Equity Mutual Funds
Share of Total Household Financial Assets



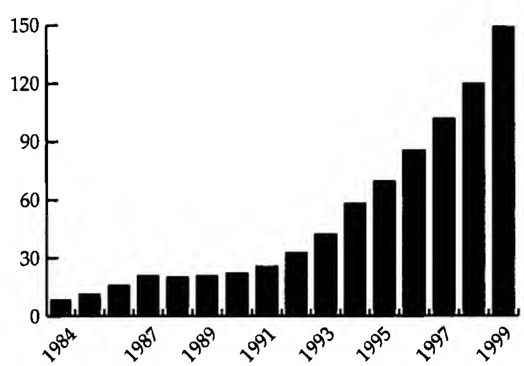
Source: ICI and Federal Reserve

EXHIBIT 31E
Percent of U.S. Households That Own
Mutual Funds of Any Type



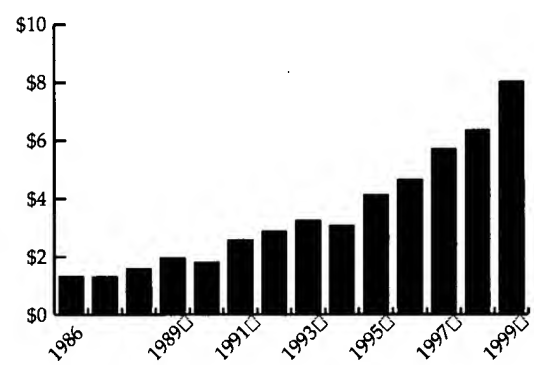
Source: ICI

EXHIBIT 31D
All Mutual Funds
Number of Shareholder Accounts in Millions



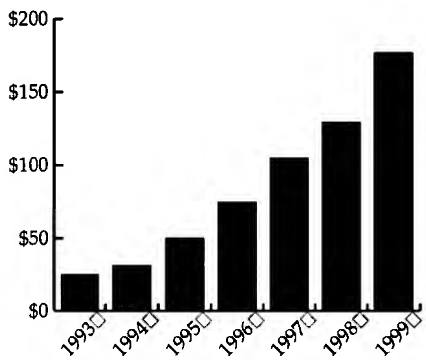
Source: ICI

EXHIBIT 32A
Individual Equities Held by Households
Assets in Trillions of Dollars



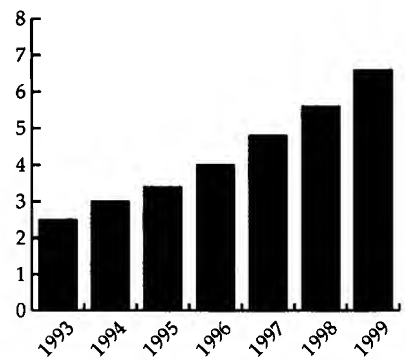
Source: Federal Reserve

EXHIBIT 33A
Growth of the Schwab Mutual Fund Supermarket
NTF & Non-NTF Assets in Billions of Dollars



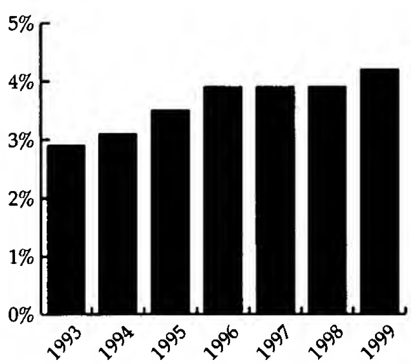
Source: www.aboutschwab.com

EXHIBIT 33C
Charles Schwab: Number of
Active Customer Accounts in Millions



Source: www.aboutschwab.com

EXHIBIT 33B
Schwab Mutual Fund Supermarket
Share of Total Industry Equity Assets



Source: www.aboutschwab.com

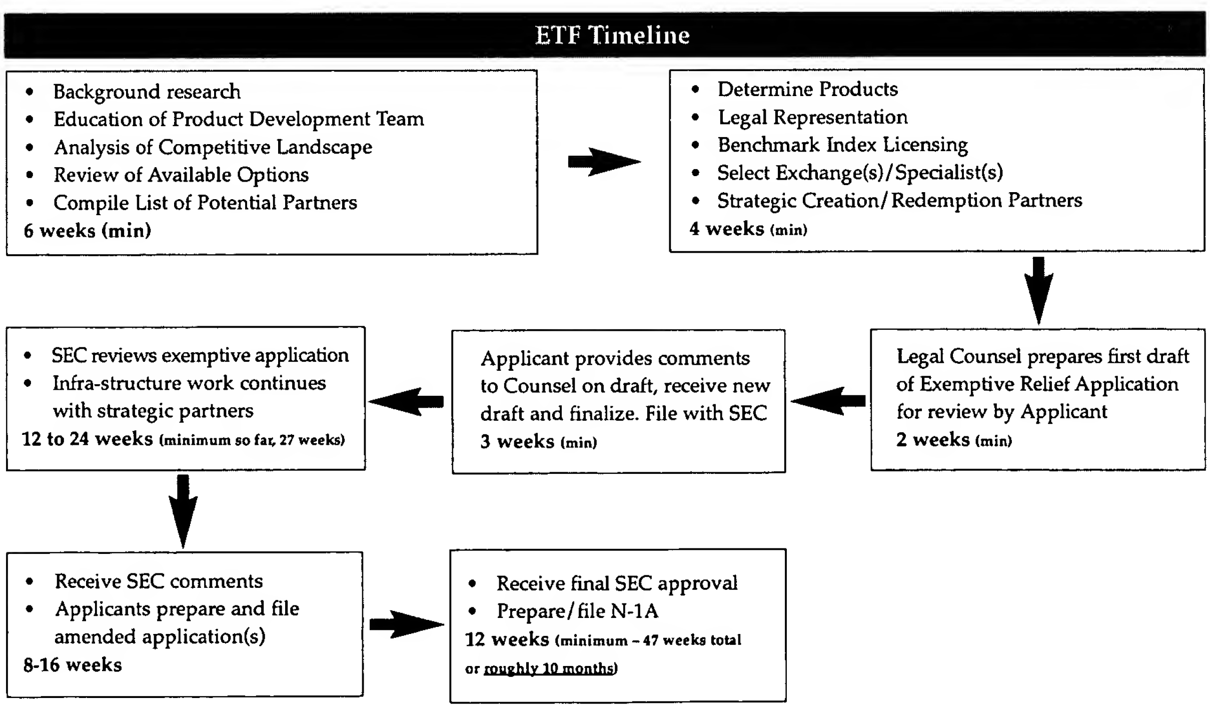
IX BUILDING YOUR OWN ETF PRODUCT LINE

As has been mentioned previously in this paper, and more than adequately supported by Kathleen Moriarty's description of the SEC approval process, embarking on the road to **establishing an ETF is not anything like filing for approval to launch a typical mutual fund**. There are myriad legal landmines one could encounter unless they are dealing with a law firm that has in-depth experience with the 1940 Act and the particular SEC rules and rulings that need to be addressed when making an exemptive application. If a fund company is filing an exemptive application for an ETF that is at all different from those that have already received exemptive relief, the choice of law firm is even more important.

Assuming the exemptive application is in line with previous similar applications, the entire SEC approval process, from start to finish, can take anywhere from 6 months to two years. **If the application is for some type of ETF that does not fall within the previously granted exemptive orders, the process can take even longer.**

Such variations do not have to be major ones, such as trying to create an enhanced or leveraged index ETF or a fixed income or actively managed version. In the eyes of the SEC, converting an existing closed end fund or Unit Investment Trust to ETF form, or adding an ETF share class to an existing index fund (such as Vanguard has petitioned to do) are all radically different proposals that would require substantially new deliberations, even if almost everything else was tailored to line up with existing precedent. What may seem to be a minor variation of an obscure feature or procedure from the perspective of the fund company, could easily be treated as a substantive alteration by the regulatory authorities and therefore subject a filing to considerable additional delay.

The following graphic may be of some assistance in putting the various steps and time frames for obtaining SEC approval in perspective.



In addition to the legal issues, there are other decisions that, if not made with the proper guidance, could have serious implications for the success or failure of a new ETF product launch. For instance, it might be advantageous to work with someone who has a detailed working knowledge of the ETF creation process and who knows the right questions to ask prospective partners.

This is not your typical mutual fund product launch. **FRC highly recommends that you find someone who has direct experience in successfully launching an ETF product to help guide you through the process.**

A rudimentary list of important questions that every fund company should ask themselves would include:

1. Which **stock exchange** would be most appropriate to list with?
2. Who are the best **contacts** to speak with at the exchanges?
3. How do we go about locating **specialist firms**?
4. Which specialist firm is best able to support the type of ETF we are considering?
5. Which **Administrator** has the best resources and infrastructure related to ETFs?
6. Which **Custodian** has the most experience with the unique needs of these products?
7. What type of **structure** is best? Mutual fund or Unit Investment Trust?
8. How much potential **market demand** is there for the type of ETF we are considering?
9. Should we basically follow the **established ETF precedents**, or should we try to create a **unique positioning** for our ETF product line?
10. If we want to introduce an index-linked ETF, **which indices** are most appropriate to use as the benchmarks?
11. Who are the best contacts to talk to about index licensing?
12. How much should we expect to **pay to license the major indices**? Which ones are still available, and which ones have been locked up?
13. How can we create our own **proprietary indices**? Should we do so?
14. How can we overcome the barriers to success that confront proprietary index-linked products?
15. What is the best way to promote the sale of our ETF's. Direct? Wholesale? A combination?
16. What is the most appropriate **pricing structure**? Do we need to have a 12b-1 fee? How large?
17. How can we best **incent brokers** to sell our products instead of the competition?
18. What sort of **scale** do we need to achieve in order to be profitable?
19. Are there areas that are relatively sheltered from the most extreme **pricing pressures**?
20. How can **small and mid size players** compete effectively with the giants that have taken the early lead in offering exchange traded funds?

There are obviously many more questions that can be considered. Many of these are answered in a general sense in the pages of this Study, but this report cannot provide customized answers that take into consideration the unique competitive strengths and weaknesses of your firm. Knowing the questions to ask is certainly important, **but knowing how to evaluate the answers in a rapidly evolving environment and within the context of each prospective entrant's competitive profile is even more critical**. Our bottom line recommendation is to seek qualified professional guidance as early in the investigative process as possible.

X FREQUENTLY ASKED QUESTIONS

As the number of ETFs continues to grow, and investors begin to gain more interest, sales professionals and money managers frequently encounter many of the same questions. The most common questions, along with our answers, are noted below:

1. **Will shareholders receive a certificate for their ETF shares?**

No. Ownership of ETFs is only recorded in the book-based system, just like ordinary equity securities held in street name at a brokerage firm. The name of the beneficial owner is recorded on the books of a central registry and brokers send confirmation of purchases, just as with any other stock purchase. The registry in the case of ETFs would most likely be the **Depository Trust Company** ("DTC") as they are the most active in this line of business. When ETF shares are sold, the transfer of ownership is recorded by entering the change on the books (electronic files).

2. **Will a financial intermediary be able to consolidate ETF holdings with other investments on a client statement?**

Yes, as long as the financial intermediary controls the client's investment portfolio. If an investor makes their own investment decisions, and makes their trades through someone other than their financial advisor, then the Advisor would be unable to provide the client with a full picture of their portfolio. **This is no different than the current situation for mutual funds or individual stocks.**

3. **Is there any way for a mutual fund company to provide a consolidated statement of fund holdings and ETF shares?**

If the ETF is issued by the mutual fund company, and the investor makes all of their investments with that company, then it is possible that their holdings could be consolidated on one statement. This would **require that the fund company offer its own brokerage accounts**, since ETFs can only be purchased through an exchange, not directly from a sponsor.

However, if the investor were to purchase the ETF shares through some other intermediary, such as a discount broker, then the issuing firm has no way to tell who owns their ETF shares. This is **no different than the customer "blindness" that fund companies now face when someone purchases their funds through a fund marketplace** such as those offered by Schwab or Fidelity.

4. **How do retail investors use ETFs in their portfolios?**

Evidence so far would seem to indicate that retail investors use ETFs in a variety of ways. As one would expect, some use them as active trading vehicles, taking positions in different indexes and trading them when the ETFs have reached pre-determined price points. Others use them as buy & hold investments, just like any other index-based fund.

The advantage to using an ETF in a buy & hold strategy is that the investor controls the realization of any capital gains and/or losses rather than leaving it up to the mutual fund manager. The disadvantage, albeit rather small, is that dividends paid on the underlying securities are not normally reinvested in the ETF — they are usually paid out to the investor in cash.

Our survey of retail ETF investors and active inquirers shows that **seventy-five percent intend to use ETFs primarily for buy and hold purposes,** while the other twenty-five percent intend to use them for a mix of both long term and trading oriented strategies. Similarly, our survey of more than 800 general retail investors

revealed that of all the features offered by ETFs, continual pricing was the one which mattered the *least* to them, while this is the benefit that would be valued most by an active trader.

5. How do institutional investors use ETFs?

Given their ability to invest substantially larger amounts than the average retail investor, Institutional investors have greater options for using ETFs. Many institutional investors invest in ETFs as a way to **equitize cash surpluses** they may have in their portfolios (i.e., putting cash to work in the equity markets without having to make individual equity investments). Others use them in **tactical asset allocation programs**, to over-weight specific sectors or make targeted industry bets and/or to **hedge** investments they already have in these sectors, and for transitional trading purposes.

Most importantly, institutional investors are in a position to actually buy and sell ETFs in Creation Unit sizes and take advantage of any **arbitrage opportunities** that may arise due to discrepancies in the price of the underlying portfolio of securities and the price of the ETF. If the price of the underlying basket of securities is greater than the price of the ETF, an institutional investor will swap Creation Units of the ETF for the underlying shares and then proceed to sell those securities, locking in a profit.

6. How are brokers compensated to sell ETFs?

The primary form of compensation is via the usual broker's **commission** charged on the purchase or sale of a stock. Secondarily, broker's **may receive a portion of any 12b-1 fee** that the ETF has elected to pay, subject to the hiring firm's policy on sharing such payments with their brokers. Broker commission on the purchase or sale of an ETF product falls into the same grid as any other equity security transaction for a client. These grids vary by firm.

At the time of publishing this Study, WEBS (now known as iShares℠) and the Select Sector SPDRs are the only ETFs with a 12b-1 fee (0.25% per annum).

7. How does a Sponsor make money with an ETF?

Primarily from a basis point fee on assets under administration, and "managing" the fund in an efficient, cost effective manner. Gross fees are typically much lower than for traditional mutual funds. Much of this difference is the result of the savings created by not having to perform shareholder sub-accounting duties. This can represent a cost advantage of 25-35 basis points.

Other savings can be realized through lower customer service costs, though these are often minimal on an incremental basis since these infrastructures already exist and are essentially "paid for." Despite these offsets, gross ETF management fees tend to be tight. This places a premium on the ability to manage the assets efficiently and to achieve reasonable scale to offset the tendency toward lower margins.

8. How can wholesalers be incented to promote ETFs?

This is a major issue in the ETF world, and one for which there is no clear-cut solution. In a traditional structured product like a mutual fund, the results of a wholesaler's activity can be tracked and measured relatively easily. The Sales Management team can, through the mutual fund transfer agents, determine which region/company/branch the sales came from.

Because the vast majority of ETF activity takes place in the secondary market, it is virtually impossible to relate a wholesaler's activity to any particular purchase or sale. It is somewhat easier at the institutional level, where Creations and Redemptions are taking place, because the Distributor and/or Trustee will know the firm conducting the transaction. They may not, however, necessarily know the identity of the ultimate investor. One could surmise that recent wholesaler activity at that particular firm may have had something to do with the transaction.

Until a clearer method of tracking sales is developed, **determining an appropriate incentive program for an ETF wholesaler is going to be difficult**. It will likely have to be a judgment call based on the wholesaler's ability to demonstrate branch/seminar activity, develop relationships with key individuals at the major wire houses and exchanges, and ferret out as much information as possible from these sources to determine, as best as possible, where sales originate.

9. How can a sponsor avoid the extremes of ETF price competition?

This will be very difficult. If a fund company is considering offering a generic ETF, like an S&P 500 Index-linked ETF, it will have to seriously consider the likelihood of being successful if pricing is not in line with existing products on the market. Offering an ETF that fills a particular **niche**, or has some other attribute that is deemed to be of value to the investing community, **may permit the sponsor to charge a premium**.

Fees in the international arena continue to be much higher, and offering unique sectors can permit higher fees. **Pushing the envelope on product development** into the realm of enhanced or leveraged index funds should also help sponsors to justify higher expense ratios. Finally, if **actively managed** ETFs can overcome the technical and regulatory hurdles that face them, they may also be the answer to the problem of tight pricing as well.

Alternatively, if one has a **proprietary distribution channel**, there may be more room for charging a higher management fee than would otherwise be the case.

10. How can a fund company know whether it should create its own exchange traded funds?

This is the $64,000 question that requires a comprehensive analysis of all the issues raised in this study, integrated with an honest assessment of an organization's strengths, weaknesses and vulnerabilities. **Those fund groups that have heavy exposure to index funds, closed end funds, unit investment trusts and sector funds should definitely give ETFs a hard look**. Some may view ETF development as a retention strategy, but there is no reason not to consider expansion into ETFs as a logical extension of demonstrated expertise in these related areas, and as a form of building on strength.

Fund groups that have little exposure to these areas also need to work through the investigative process, because index-based ETFs are already drawing roughly as many assets away from actively managed funds as they are from index funds. This is before the introduction of actively managed ETFs, which would logically pose an even greater threat. **Even if a company traditionally shies away from indexing, they may want to learn the ETF ropes now with one experimental product, in order to be ready for the potential emergence of actively managed funds in the next 1-3 years.**

GLOSSARY

Active Management

Portfolio management that **seeks to exceed** the returns of the financial markets, usually represented by a specific benchmark. Active managers rely on research, market forecasts and their own judgment and experience in making investment decisions.

An open-end or closed-end growth equity mutual fund would be an example of an actively managed portfolio. The Vanguard 500 Index Fund would be considered a passively managed mutual fund.

Administrator

Firm hired to carry out all of the duties associated with the **daily management** of the ETF including calculation of the end-of-day NAV, calculation of dividends and distribution of same, Board of Directors attendance, monitoring of tracking against underlying Index, regulatory reporting, etc. *PFPC, Inc. is an example of a firm that provides Administrator services.*

Advisor/Trustee

Depending on the nature of the ETF, could be a professional money manager or a Trustee. If it is a **pure replication of the underlying index, it is usually a Trustee**. If there is any **need to make a decision** as to which securities should be placed in the ETF, **this will be an Advisor**. Regardless of which entity it is, they set up the portfolio, and make any required changes due to changes in the underlying benchmark index due to corporate actions (i.e., stock splits, mergers, additions, deletions, etc.).

Barclays Global Investors is an example of an Advisor. A Trustee could be a firm like State Street Bank and Trust Company.

American Depository Receipt (ADR)

A **negotiable certificate** representing a given number of shares of stock in a foreign-based company that trades on a U.S. stock exchange.

Arbitrage

The **simultaneous purchase and sale** of the same or related securities to take advantage of temporary pricing differences in the market.

Authorized Participant

Broker/Dealer who, by agreement with the Distributor, is authorized to **accept purchase and redemption orders** for ETFs in Creation Unit size aggregations.

Morgan Stanley Dean Witter and Merrill Lynch, for example, could be Authorized Participants.

Closed End Fund

An investment company that **issues a fixed number of shares** in an actively managed portfolio of securities. The shares may be of several classes and trade in the secondary marketplace (either on an exchange or over the counter). The market price is set by supply and demand, not by net asset value.

Custodian

Responsible for taking **possession of the underlying securities** in the portfolio (even though it is a book-based system) when an ETF is Created, and distributing those securities in exchange for the ETF shares on a Redemption.

Chase Manhattan Bank and Bank of New York are firms that act as Custodians.

Creation Unit

The aggregate number of shares of an ETF that the Sponsor declares to be the **minimum size** for purposes of **issuing** new shares or **redeeming** existing shares.

Dow Jones Industrial Average Index

A price-weighted average of 30 actively traded blue chip stocks. The components, which change from time to time, represent between 15% and 20% of the market value of NYSE stocks. The Average is calculated by adding

the closing prices of the component stocks and using a divisor that is adjusted for splits and stock dividends equal to 10% or more of the market value of an issue as well as substitutions and mergers. The Average is quoted in points, not dollars.

Distributor

Acts as the **underwriter on an agency basis**. Receives all orders to create or redeem shares of an ETF in Creation Unit size aggregations; transmits all such orders to the Transfer Agent and ensures that the appropriate exchange of shares and cash takes place.

Funds Distributor Inc. and ALPS Mutual Fund Services, Inc. are representative of firms that act as a Distributor.

Down Tick

Also known as a "minus tick", it is a security transaction's **execution price** that is **below the previous execution price**, by a minimum amount. SEC regulations prohibit short sales from being executed on a down tick.

Exchange Listed Security

A security that has met certain listing requirements and **has been admitted to full trading privileges** on an exchange. The NYSE, AMEX and regional exchanges set listing requirements for volume of shares outstanding, corporate earnings and other characteristics.

Exchange Traded Fund

Hybrid investment instruments that give investors an undivided interest in a portfolio of securities (like a mutual fund), but also give investors the flexibility of **trading the entire portfolio as a single entity on a stock exchange.** ETFs are structured to track the performance of an underlying benchmark index, such as the S&P 500 Index or the Dow Jones Industrials Index.

Exemptive Order

An order issued by the SEC that provides the applicant with an exemption from the need to comply with certain requirements of an existing Rule. As it pertains to ETFs, an applicant may request, among other things, relief from Sec 2(a)(32) and Sec 5(a)(1) to permit ETFs to redeem shares only in Creation Unit size aggregations; Sec 22d and Rule 22c-1 to permit trading of shares to take place at prices other than NAV; and Sec 17(a) and (b) to permit affiliates to deposit securities into, and receive Portfolio Securities from, the ETF.

Futures Contract

A standardized exchange-traded **agreement to buy or sell** a particular type and grade of commodity for delivery **at an agreed-upon place and time in the future.**

Investment Company Act of 1940 ('40 Act)

Congressional legislation that regulates companies that invest and reinvest in securities (i.e., mutual funds). The Act requires an investment company engaged in interstate commerce to register with the SEC.

Leverage

Using borrowed capital to potentially increase investment return.

Margin

The **amount of equity contributed by a customer** as a percentage of the current market value of securities held in a margin account with a broker/dealer.

Margin Account

A brokerage account that allows a buyer to purchase securities by **borrowing a portion of the money** from the broker. The amount borrowed is regulated by Regulation T, the NASD, the NYSE and by individual brokerage house rules.

Market Capitalization

Price per share multiplied by the total number of shares outstanding. It is also the market's total valuation of a public company.

National Association of Securities Dealers (NASD)

The self-regulatory organization of brokers and dealers set up to protect the investing public against fraudulent acts. The NASD administers its own rules of fair practice.

Nasdaq Composite Index

The Nasdaq Composite Index measures all Nasdaq domestic and non-U.S. based common stocks listed on The Nasdaq Stock Market. The Index is **market-value weighted**. This means that each company's security affects the Index in proportion to its market value. The market value, the last sale price multiplied by the number of shares outstanding, is calculated throughout the trading day, and is related to the total value of the Index.

Nasdaq-100 Index

An Index that includes **100 of the largest non-financial domestic companies** listed on The Nasdaq Stock Market. Launched in January 1985, each security in the Index is proportionately represented by its market capitalization in relation to the total market value of the Index. The Index reflects Nasdaq's largest growth companies across major industry groups. All Index components have a **minimum market capitalization of $500 million**, and an average daily trading volume of at least 100,000 shares.

Net Asset Value

The market value of a mutual fund share, synonymous with a bid price. In the case of a no load fund, the NAV, market price and offering price are all the same figure. This is the **price the public pays to buy shares or will receive when redeeming shares from the fund company**. Load fund offer prices are calculated after adding the sales charge to the net asset value. NAV is calculated by most funds after the close of the exchanges each day (usually 4 p.m.). It is determined by taking the closing market value of all securities held in the portfolio plus all other assets (such as cash), subtracting all liabilities and then dividing the result by the total number of shares outstanding. The total number of shares outstanding can vary from day to day depending on the number of purchases and redemptions.

Open End Fund

Also called a mutual fund, an open end fund is an investment company that **continuously offers new shares** in an actively or passively managed portfolio of securities. All shareholders participate in the gains or losses of the fund. The shares are redeemable on any business day at the net asset value. Each mutual fund's portfolio is invested to match the objective stated in the prospectus.

Option

A security that represents the **right to buy or sell** a specified amount of an underlying investment instrument (a stock, bond, futures contract, etc.) **at a specified price within a specified time**. The purchaser acquires a right, and the seller assumes an obligation.

Passive Management

An investment management approach that **seeks to match** the return and risk characteristics of a discrete market segment, or index, by holding all of the securities that comprise the market segment, or a statistically representative sample of the index.

Any of the many Index funds on the market today are examples of a passively managed fund.

Plus Tick

Also called an "up tick", it is a security transaction's **execution price** that is **above the previous execution price**, by a minimum amount.

Plus Tick Rule

An **SEC regulation** governing the market price at which a short sale may be executed. No short sale may executed at a price below the price of the last sale.

Regulated Investment Company ("RIC")

An investment company to which subchapter M of the Internal Revenue Code grants special status that allows the flow-through of tax consequences on a distribution to shareholders. If 90% of income is passed through to the shareholders, the company is not subject to tax on this income.

ETFs, open and closed-end mutual funds, and UITs are structured to qualify for RIC status.

Securities and Exchange Commission (SEC)

Commission created by Congress to **regulate the securities markets** and protect investors. It is composed of five commissioners appointed by the President of the United States and approved by the Senate. The SEC enforces, among other acts, the Securities Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940 and the Investment Advisors Act of 1940.

Securities Exchange Act of 1934

Federal legislation that **established the Securities and Exchange Commission.** The Act aims to protect investors by regulating the exchanges, over-the-counter market, extension of credit by the Federal Reserve Board, broker/dealers, insider transactions, trading activities, client accounts and net capital.

Secondary Market

The market in which securities are bought and sold **subsequent to** their **being sold** to the public **for the first time**.

The New York Stock Exchange and The American Stock Exchange are secondary markets.

Short Sale

The sale of a security that the **seller does not own,** or any sale consummated by the delivery of a security borrowed by or for the account of the seller.

Specialist

A stock exchange member who **stands ready to quote and trade** certain securities either for their own account or for customer accounts. The specialist's role is to maintain a fair and orderly market in the stocks for which he is responsible. Also known as a market-maker.

Spear, Leeds and Kellogg and Hull Trading are representative firms.

Sponsor

The firm or group of individuals that is responsible for **organizing, selling or managing** the ETF.

S&P 500 Index

A **capitalization-weighted** index comprised of 500 of the largest, **most actively traded** stocks on the New York Stock Exchange. Its performance is generally perceived to represent the performance of the overall stock market. The advantage of capitalization-weighting is that each company's influence on index performance is directly proportional to its relative market value. It is this characteristic that makes the S&P 500 Index a valuable tool for measuring the performance of actual portfolios.

Transfer Agent

A person or corporation responsible for **recording the names and holdings of registered security owners,** seeing that certificates are signed by the appropriate corporate officers, affixing the corporate seal, and delivering securities to the new owners.

Depository Trust Company and PFPC, Inc. are examples of firms that provide this service.

Trust Indenture Act of 1939

The legislation requiring that all publicly offered, non-exempt debt securities be registered under the Securities Act of 1933 and be issued under a trust indenture that protects bondholders.

Underwriter

An investment banker that works with an issuer to help **bring a security to market** and sell it to the public.

Any of the major broker/dealers, such as Merrill Lynch or Salomon Smith Barney, act in the capacity of an underwriter.

Unit Investment Trust

An investment management company that sells redeemable shares in a **professionally selected portfolio** of securities. It is organized **under a trust indenture**, not a corporate charter.

Variable Annuity

A type of **insurance contract** that **guarantees future payments** to the holder or annuitant, usually at retirement. The annuity's value varies with that of the underlying portfolio securities, which may include mutual fund shares. All monies held in the annuity accumulate on a tax-deferred basis.

APPENDICES

APPENDIX A: Selected Details on the Most Popular Index-based Exchange Traded Products Trading on the AMEX

	SPDRs	MidCap SPDRs	Select Sector SPDRs
Launch Date	January 9, 1993	May 4, 1995	December 22, 1998
Form of business	UIT	UIT	RIC
Sponsor	PDR Services Corp.	PDR Services Corp.	N/A
Custodian/Trustee	State Street Bank & Tr	The Bank of New York	State Street Bank & Tr
Distributor	ALPS Mutual Fund Svcs	ALPS Mutual Fund Svcs	ALPS Mutual Fund Svcs
Transfer Agent	N/A	N/A	State Street Bank & Tr
Administrator	N/A	N/A	State Street Bank & Tr
Trading Unit	Round and Odd lots	Round and Odd lots	Round and Odd lots
Price Quotes/Frequency	In dollars and fractions/ throughout the day	In dollars and fractions/ throughout the day	In dollars and fractions/ throughout the day
Settlement	T+3	T+3	T+3
Dividends	Quarterly in cash	Quarterly in cash	Quarterly in cash
Creations/Redemptions	50,000 shares	25,000 shares	50,000 shares
NAV calculations	Close of trading	Close of trading	Close of trading
Marginable	Yes, even on downtick	Yes, even on downtick	Yes, even on downtick

	DIAMONDS	Nasdaq-100	WEBS
Launch Date	January 23, 1998	March 10, 1999	March 18, 1996
Form of business	UIT	UIT	RIC
Sponsor	PDR Services Corp.	Nasdaq-AMEX Investment Prod. Svces	WEBS Index Fund, Inc.
Custodian/Trustee	State Street Bank & Tr	The Bank of New York	Chase Manhattan Bank
Distributor	ALPS Mutual Fund Services	ALPS Mutual Fund Services	SEI Investments Distribution Company
Transfer Agent	State Street Bank & Tr	N/A	PNC Bank
Administrator	State Street Bank & Tr	N/A	PFPC, Inc.
Trading Unit	Round and Odd lots	Round and Odd lots	Round and Odd lots
Price Quotes/Frequency	In dollars and fractions/ throughout the day	In dollars and fractions/ throughout the day	In dollars and fractions/ throughout the day
Settlement	T+3	T+3	T+3
Dividends	Monthly in cash	None expected to be paid	Twice yearly in cash
Creations/Redemptions	50,000 shares	50,000 shares	Various, see next page
NAV calculations	Close of trading	Close of trading	Close of trading
Marginable	Yes, even on downtick	Yes, even on downtick	Yes, even on downtick

CREATION/REDEMPTION SIZES FOR WORLD EQUITY BENCHMARK SHARES*

WEBS Australia	200,000
WEBS Austria	100,000
WEBS Belgium	40,000
WEBS Canada	100,000
WEBS France	200,000
WEBS Germany	300,000
WEBS Hong Kong	75,000
WEBS Italy	150,000
WEBS Japan	600,000
WEBS Malaysia	75,000
WEBS Mexico	100,000
WEBS Netherlands	50,000
WEBS Singapore	100,000
WEBS Spain	75,000
WEBS Sweden	75,000
WEBS Switzerland	125,000
WEBS United Kingdom	200,000

* *Now called iShares*

SHARE AMOUNTS UNDERLYING EACH ROUND LOT OF 100 HOLDRS

The share amounts specified below and on the following pages will not change except for changes due to corporate actions or reconstitution events. Share holdings as of 4/20/00.

BIOTECH HOLDRS (BBH)

Name of Company	# of Shares	Name of Company	# of Shares
Amgen (AMGN)	46	IDEC Pharmaceuticals Corp. (IDPH)	4
Genentech, Inc. (DNA)	22	QLT Photo Therapeutics Inc. (QLTI)	5
Biogen, Inc. (BGEN)	13	Millenium Pharma, Inc. (MLNM)	6
Immunex Corporation (IMNX)	42	BioChem Pharma, Inc. (BCHE)	9
PE Corp-PE Biosystems Group (PEB)	18	Affymetrix, Inc. (AFFX)	2
MedImmune, Inc. (MEDI)	5	Human Genome Sciences, Inc. (HGSI)	4
Chiron Corporation (CHIR)	16	ICOS Corporation (ICOS)	4
Genzyme Corporation (GENZ)	7	Enzon, Inc.(ENZN)	3
Gilead Sciences, Inc. (GILD)	4	Celera Genomics (CRA)	4
Sepracor Inc. (SEPR)	6	Alkermes, Inc. (ALKS)	2

Source: AMEX

B2B INTERNET HOLDRS (BHH)

Name of Company	# of Shares	Name of Company	# of Shares
Internet Capital Group, Inc. (ICGE)	15	CheckFree Holdings Corporation (CKFR)	4
Ariba, Inc. (ARBA)	14	Retek, Inc. (RETK)	3
Commerce One, Inc. (CMRC)	12	Proxicom, Inc. (PXCM)	4
FreeMarkets, Inc. (FMKT)	3	PurchasePro.com, Inc. (PPRO)	2
VerticalNet, Inc. (VERT)	6	SciQuest.com, Inc. (SQST)	3
Scient Corporation (SCNT)	5	QRS Corporation (QRSI)	1
CareInsite, Inc. (CARI)	6	Harbinger Corporation (HRBC)	3
Ventro Corporation (VNTR)	2	Pegasus Systems, Inc. (PEGS)	2
Agile Software Corporation (AGIL)	4	ImageX.com, Inc. (IMGX)	1

Source: AMEX

BROADBAND HOLDRS (BDH)

Name of Company	# of Shares	Name of Company	# of Shares
Lucent Technologies, Inc. (LU)	29	Terayon Communications Systems, Inc. (TERN)	1
Nortel Networks Corporation (NT)	14	PMC-Sierra, Inc. (PMCS)	1
Motorola, Inc. (MOT)	6	Comverse Technology, Inc. (CMVT)	2
Qualcomm, Inc. (QCOM)	8	SDL, Inc. (SDLI)	1
JDS Uniphase Corporation (JDSU)	8	Conexant Systems, Inc. (CNXT)	2
Broadcom Corporation ñ Cl A (BRCM)	2	Next Level Communications, Inc. (NXTV)	1
Corning, Inc. (GLW)	3	RF Micro Devices, Inc. (RFMD)	1
Sycamore Networks, Inc. (SCMR)	3	Scientific-Atlanta, Inc. (SFA)	2
Applied Micro Circuits Corporation (AMCC)	1	Ciena Corporation (CIEN)	1
Tellabs, Inc. (TLAB)	4	Copper Mountain Networks, Inc. (CMTN)	1

Source: AMEX

INTERNET HOLDRS (HHH)

Name of Company	# of Shares	Name of Company	# of Shares
America Online, Inc. (AOL)	42	E*Trade Group, Inc. (EGRP)	12
Yahoo!, Inc. (YHOO)	26	DoubleClick, Inc. (DCLK)	4
Amazon.com, Inc. (AMZN)	18	Ameritrade Holding Corporation (AMTD)	9
EBay, Inc. (EBAY)	6	Lycos, Inc. (LCOS)	4
At Home Corporation (ATHM)	17	CNET Networks, Inc. (CNET)	4
Priceline.Com, Inc. (PCLN)	7	PSINet, Inc. (PSIX)	6
CMGI, Inc. (CMGI)	10	Network Associates, Inc. (NETA)	7
Inktomi Corporation (INKT)	6	EarthLink Nerwork, Inc. (ELNK)	6.23
RealNetworks, Inc. (RNWK)	8	Go2Net, Inc. (GNET)	1
Exodus Communications, Inc. (EXDS)	8		

Source: AMEX

INTERNET ARCHITECTURE HOLDRS (IAH)

Name of Company	# of Shares	Name of Company	# of Shares
Cisco Systems, Inc. (CSCO)	26	Foundry Networks, Inc. (FDRY)	1
Intenational Business Machines Corporation (IBM)	13	Gateway, Inc. (GTW)	2
Hewlett-Packard Company (HWP)	7	Network Appliance, Inc. (NTAP)	2
Sun Microsystems, Inc. (SUNW)	12	Apple Computer, Inc. (AAPL)	1
EMC Corporation (EMC)	8	Cobalt Networks, Inc. (COBT)	1
Dell Computer Corporation (DELL)	19	Seagate Technology, Inc. (SEG)	2
Compaq Computer Corporation (CPQ)	13	Extreme Networks, Inc. (EXTR)	1
Sycamore Networks, Inc. (SCMR)	2	CIENA Corporation (CIEN)	1
Juniper Networks, Inc. (JNPR)	1	Unisys Corporation (UIS)	2
3Com Corporation (COMS)	3	Adaptec, Inc. (ADPT)	1

Source: AMEX

INTERNET INFRASTRUCTURE HOLDRS (IIH)

Name of Company	# of Shares	Name of Company	# of Shares
Exodus Communications, Inc. (ESDS)	6	Vitria Technology, Inc. (VITR)	4
Akamai Technologies, Inc. (AKAM)	3	InterNAP Network Services Corporation (INAP)	5
VeriSign, Inc. (VRSN)	4	Digital Island, Inc. (ISLD)	2
InfoSpace.com, Inc. (INSP)	8	Network Solutions, Inc. (NSOL)	2
BroadVision, Inc. (BVSN)	9	Kana Communications, Inc. (KANA)	2
Vignette Corporation (VIGN)	2	Alteon WebSystems, Inc. (ATON)	2
Inktomi Corporation (INKT)	4	Uninternetworking, Inc. (USIX)	3
BEA Systems, Inc. (BEAS)	10	E.piphany, Inc. (EPNY)	1
RealNetworks, Inc. (RNWK)	6	NaviSite, Inc. (NAVI)	2
Portal Software, Inc. (PRSF)	6	Software.com, Inc. (SWCM)	2

Source: AMEX

PHARMACEUTICAL HOLDRS (PPH)

Name of Company	# of Shares	Name of Company	# of Shares
Exodus Merck & Co., Inc. (MRK)	22	Biovail Corporation International (BVF)	2
Pfizer, Inc. (PFE)	36	King Pharmaceuticals, Inc. (KING)	1
Johnson & Johnson (JNJ)	13	Forest Laboratories, Inc. (FRX)	1
Bristol-Meyers Squibb Company (BMY)	18	Andrx Corporation (ADRX)	2
Eli Lilly & Company (LLY)	10	Allergan, Inc. (AGN)	1
Warner-Lambert Company (WLA)	8	Jones Pharma, Inc. (JMED)	1.5
Schering-Plough Corporation (SGP)	14	Watson Pharmaceuticals, Inc. (WPI)	1
American Home Products Corporation (AHP)	12	ICN Pharmaceuticals, Inc. (ICN)	1
Abbot Laboratories (ABT)	14	Mylan Laboratories, Inc. (MYL)	1
Pharmacia Corporation (PHA)	5.95	IVAX Corporation (IVX)	1.5

Source: AMEX

TELECOM HOLDRS (TTH)

Name of Company	# of Shares	Name of Company	# of Shares
SBC Communications, Inc. (SBC)	27	Nextel Communications, Inc. (NXTL)	3
AT&T Corporation (T)	25	US West, Inc. (USW)	4
MCI WorldCom, Inc. (WCOM)	22	Qwest Communications International, Inc. (Q)	6
Bell Atlantic Corporation (BEL)	12	Level 3 Communications, Inc. (LVTL)	3
BellSouth Corporation (BLS)	15	ALLTEL Corporation (AT)	2
GTE Corporation (GTE)	8	Telephone & Data Systems, Inc. (TDS)	1
BCE Inc. (BCE)	5	NTL Incorporated (NTLI)	1.25
Sprint Corporation (FON Group) (FON)	6	Broadwing Inc. (BRW)	2
Sprint Corporation (PCS Group) (PCS)	6	McLeodUSA, Inc. (MCLD)	3
Global Crossing Ltd. (GBLX)	6	Century Telephone Enterprises (CTL)	1

Source: AMEX

APPENDIX B: Total Return Tables

SALOMON SMITH BARNEY EXCHANGE-TRADED FUND (ETF) UNIVERSE

	Amex Ticker	Rating	Price As of 5/16/00	YTD	1 Day	Total Return 1 Week	1 Month	3 Months	6 Months	12 Months	52-Week Range High	52-Week Range Low	52-Week % Change From High	52-Week % Change From Low	Since Inception Range High	Since Inception Range Low	Since Inception % Change From High	Since Inception % Change From Low
Exchange Traded Index Fund/Index																		
S&P Depository Receipts	SPY	NR	$146.56	-0.2%	0.9%	3.7%	1.4%	3.9%	3.8%	9.4%	$153.56	$124.88	-5%	17%	$153.56	$43.40	-5%	238%
S&P 500 Index			1466	-0.2%	0.9%	3.8%	1.7%	4.6%	3.2%	10.0%	1527	1247	-4%	18%	1527	432	-4%	239%
S&P MidCap 400 Depository Receipts	MDY	NR	$89.91	10.8%	1.4%	2.6%	5.6%	9.8%	10.8%	19.3%	91.81	69.84	-2%	29%	91.81	37.19	-2%	142%
S&P MidCap 400 Index			489	10.0%	1.3%	2.3%	5.7%	10.0%	14.4%	22.9%	500	370	-2%	29%	500	182	-2%	169%
Diamonds	DIA	NR	$109.31	-5.1%	1.0%	3.7%	2.1%	1.7%	-0.6%	0.4%	117.50	98.47	-7%	11%	117.50	74.88	-7%	46%
Dow Jones Industrials Average			10935	-4.9%	1.2%	3.8%	1.6%	2.0%	0.0%	0.9%	11723	9796	-7%	12%	11723	7539	-7%	45%
Nasdaq-100 Shares	QQQ	NR	$91.06	-0.4%	2.7%	6.5%	-0.8%	-9.2%	23.3%	68.2%	117.88	49.84	-23%	83%	117.88	48.81	-23%	87%
Nasdaq-100 Index			3647	-1.6%	3.7%	5.9%	-1.9%	-8.8%	24.0%	68.9%	4705	1999	-22%	82%	4705	1933	-22%	89%
Average ETF Price Change				1.3%	1.5%	4.1%	2.1%	1.6%	9.3%	24.3%								
Average Index Change				0.8%	1.8%	3.9%	1.8%	2.0%	10.4%	25.7%								
Select Sector Fund/Select Sector Index																		
Basic Industries Select Sector SPDRs	XLB	NR	$23.31	-12.3%	-1.1%	1.1%	4.9%	1.2%	-7.0%	-11.8%	$27.47	$19.81	-15%	18%	$28.20	$19.81	-17%	18%
Basic Industries SS Index			236	-11.1%	-0.6%	3.1%	6.1%	2.7%	-5.7%	-10.7%	277	197	-15%	20%	282	197	-16%	20%
Consumer Services Select Sector SPDRs	XLV	NR	$30.00	-2.9%	1.3%	4.5%	4.5%	0.5%	1.5%	4.3%	32.84	25.67	-9%	17%	32.84	25.03	-9%	20%
Consumer Services SS Index			305	-2.5%	1.9%	4.5%	4.6%	0.0%	3.0%	4.8%	328	257	-7%	18%	328	250	-7%	22%
Consumer Staples Select Sector SPDRs	XLP	NR	$23.78	3.3%	-0.5%	-0.1%	5.7%	7.3%	-5.5%	-7.0%	26.06	18.72	-9%	27%	27.80	18.72	-14%	27%
Consumer Staples SS Index			239	3.6%	-0.1%	1.2%	5.8%	8.2%	-4.8%	-6.8%	261	185	-8%	29%	277	185	-14%	29%
Cyclical/Transportation Select Sector SPDRs	XLY	NR	$29.00	-6.6%	0.8%	3.5%	1.3%	6.7%	0.4%	-0.2%	31.06	24.19	-7%	20%	31.06	24.19	-7%	20%
Cyclical/Transportation SS Index			289	-6.4%	0.4%	3.8%	0.9%	7.1%	-0.1%	-0.6%	310	241	-7%	20%	310	241	-7%	20%
Energy Select Sector SPDRs	XLE	NR	$31.64	16.8%	-2.0%	3.9%	13.2%	16.2%	11.0%	16.9%	32.27	24.81	-2%	28%	32.27	21.19	-2%	49%
Energy SS Index			317	16.5%	-1.3%	4.5%	12.7%	16.9%	11.3%	17.2%	321	249	-1%	28%	321	211	-1%	50%
Financial Select Sector SPDRs	XLF	NR	$24.73	4.0%	-0.6%	5.3%	5.0%	13.9%	-7.1%	-4.7%	26.63	19.81	-7%	25%	27.22	19.81	-9%	25%
Financials SS Index			246	3.4%	-0.6%	5.7%	4.2%	14.2%	-7.3%	-4.5%	266	197	-7%	25%	271	197	-9%	25%
Industrial Select Sector SPDRs	XLI	NR	$30.88	4.3%	0.9%	5.4%	8.8%	17.3%	7.6%	7.6%	30.88	25.19	0%	23%	30.88	23.28	0%	33%
Industrials SS Index			310	4.4%	1.7%	5.6%	8.2%	17.2%	7.8%	8.2%	310	251	0%	24%	310	233	0%	33%
Technology Select Sector SPDRs	XLK	NR	$52.59	-2.4%	2.9%	4.0%	-4.0%	-3.6%	14.3%	37.0%	64.50	35.98	-18%	46%	64.50	32.05	-18%	64%
Technology SS Index			525	-3.0%	2.7%	3.8%	-4.1%	-3.7%	14.5%	37.3%	643	359	-18%	46%	643	320	-18%	64%
Utilities Select Sector SPDRs	XLU	NR	$28.58	1.6%	-0.4%	3.3%	4.8%	9.1%	-2.7%	-2.5%	31.27	23.44	-9%	22%	31.27	23.44	-9%	22%
Utilities SS Index			287	1.1%	-0.8%	3.5%	4.2%	9.4%	-2.5%	-2.1%	312	234	-8%	22%	312	234	-8%	22%
Average Select Sector ETF Price Change				0.6%	0.2%	3.4%	4.9%	7.6%	1.4%	4.4%								
Average Index Change				0.7%	0.4%	4.0%	4.7%	8.0%	1.8%	4.8%								

Source: Salomon Smith Barney, FactSet Research

SALOMON SMITH BARNEY WORLD EQUITY BENCHMARK SHARES (WEBS) UNIVERSE

MSCI INDEX PRICE PERFORMANCE (IN U.S. DOLLAR TERMS)

	PRICE AS OF 05/16/00	PRICE AS OF 12/31/99	% CHG SINCE 12/31/98	PRICE AS OF 12/31/98	% CHG SINCE 12/31/98	PRICE AS OF 12/31/97	% CHG SINCE 12/31/97	52 WEEK RANGE HIGH	52 WEEK RANGE LOW	52 WEEK % CHG FROM HIGH	52 WEEK % CHG FROM LOW	10 YEAR RANGE HIGH	10 YEAR RANGE LOW	10 YEAR % CHG FROM HIGH	10 YEAR % CHG FROM LOW
MSCI AMERICAS															
Canada	911	797	14.3%	525	73.4%	567	60.5%	976	584	-6.7%	55.9%	976	310	-6.7%	193.7%
Mexico	1657	1866	-11.2%	1046	58.5%	1596	3.8%	2168	1264	-23.6%	31.1%	2193	376	-24.4%	341.1%
MSCI ASIA															
Australia	319	361	-11.5%	313	2.0%	302	5.9%	372	308	-14.1%	3.7%	372	185	-14.1%	73.0%
Hong Kong	5698	6595	-13.6%	4259	33.8%	4609	23.6%	6836	4913	-16.6%	16.0%	7292	1428	-21.9%	299.1%
Japan	3287	3571	-8.0%	2224	47.8%	2133	54.1%	3603	2391	-8.8%	37.5%	3613	1695	-9.0%	93.9%
Malaysia	224	194	15.2%	92	143.8%	136	65.0%	247	132	-9.5%	69.2%	458	54	-51.2%	312.8%
Singapore	311	407	-23.4%	257	21.3%	271	14.9%	421	305	-26.0%	2.1%	533	140	-41.5%	121.8%
MSCI EUROPE															
Austria	690	818	-15.7%	914	-24.5%	922	-25.2%	897	659	-23.1%	4.7%	1506	659	-54.2%	4.7%
Belgium	1171	1501	-22.0%	1782	-34.3%	1081	8.3%	1579	1077	-25.9%	8.7%	1901	533	-38.4%	119.5%
France	1607	1590	1.1%	1242	29.4%	887	81.1%	1715	1196	-6.3%	34.3%	1715	440	-6.3%	265.3%
Germany	1606	1720	-6.6%	1449	10.8%	1131	42.1%	1933	1290	-16.9%	24.5%	1933	499	-16.9%	222.2%
Italy	443	460	-3.7%	467	-5.1%	309	43.2%	505	381	-12.3%	16.2%	505	139	-12.3%	219.5%
Netherlands	2197	2302	-4.6%	2187	0.5%	1805	21.7%	2338	2020	-6.0%	8.8%	2354	570	-6.7%	285.7%
Spain	383	417	-8.2%	403	-5.0%	273	40.5%	441	350	-13.2%	9.6%	443	104	-13.5%	267.3%
Sweden	6145	5432	13.1%	3056	101.1%	2713	126.5%	7213	3311	-14.8%	85.6%	7213	771	-14.8%	697.1%
Switzerland	2437	2570	-5.2%	2788	-12.6%	2274	7.2%	2601	2216	-6.3%	10.0%	2955	548	-17.5%	344.9%
United Kingdom	1144	1326	-13.8%	1208	-5.3%	1052	8.7%	1336	1118	-14.4%	2.3%	1336	426	-14.4%	168.5%
MSCI REGIONAL INDICES															
World	1370	1421	-3.6%	1150	19.1%	937	46.3%	1449	1176	-5.5%	16.5%	1449	423	-5.5%	223.7%
United States	1427	1446	-1.3%	1196	19.3%	929	53.6%	1493	1211	-4.4%	17.8%	1493	282	-4.4%	406.2%
North America	1523	1534	-0.7%	1258	21.1%	990	53.9%	1595	1281	-4.5%	19.0%	1595	312	-4.5%	388.7%
EAFE Free	216	232	-6.6%	185	16.8%	156	38.1%	233	184	-7.4%	17.8%	233	94	-7.4%	129.5%
Pacific Free	116	127	-9.1%	82	41.0%	81	43.0%	128	90	-10.1%	28.6%	130	63	-11.1%	84.1%
Pacific Free (ex-Japan)	220	257	-14.6%	191	15.3%	208	5.6%	261	210	-15.9%	5.0%	321	117	-31.4%	88.6%
Europe	398	420	-5.3%	365	9.1%	292	36.2%	434	347	-8.4%	14.6%	434	124	-8.4%	221.1%

Source: Salomon Smith Barney, FactSet Research Systems, MSCI

SALOMON SMITH BARNEY WORLD EQUITY BENCHMARK SHARES (WEBS) UNIVERSE

	AMEX TICK	RATING	PRICE AS OF 05/16/00	TOTAL RETURN YTD	1 WEEK	1 MONTH	3 MONTH	6 MONTH	12 MONTH	36 MONTH	52 - WEEK RANGE HIGH	52 - WEEK RANGE LOW	52 - WEEK % CHG. FROM HIGH	52 - WEEK % CHG. FROM LOW	SINCE INCEPTION (3/18/96) RANGE HIGH	SINCE INCEPTION RANGE LOW	SINCE INCEPTION % CHG. FROM HIGH	SINCE INCEPTION % CHG. FROM LOW
Americas																		
Canada	EWC	NR	18.25	10.6%	2.5%	7.4%	0.7%	19.7%	40.8%	39.0%	19.06	12.94	-4%	41%	19.06	9.88	-4%	85%
MSCI-Canada			911	14.3%	4.1%	14.3%	0.2%	28.8%	51.5%	66.9%	976	584	-7%	56%	976	419	-7%	117%
Mexico	EWW	2A	15.75	-12.8%	3.3%	2.0%	-16.8%	0.0%	5.3%	20.6%	20.56	12.00	-23%	31%	20.56	7.00	-23%	125%
MSCI-Mexico			1657	-11.2%	2.8%	-0.2%	-16.2%	1.1%	2.7%	37.2%	2168	1264	-24%	31%	2168	723	-24%	129%
Average WEBS Price Change				-1.1%	2.9%	4.7%	-8.1%	9.8%	23.0%	29.8%								
Average MSCI Index Change				1.5%	3.4%	7.1%	-8.0%	15.0%	27.1%	52.0%								
Asia																		
Australia	EWA	NR	9.69	-12.4%	-0.6%	0.0%	-6.0%	-4.3%	-12.5%	-12.4%	11.63	9.31	-17%	4%	11.88	7.44	-18%	30%
MSCI-Australia			319	-11.5%	-0.4%	-2.9%	-8.0%	-5.9%	-12.8%	-8.5%	372	308	-14%	4%	372	259	-14%	24%
Hong Kong	EWH	NR	12.25	-14.0%	5.3%	1.6%	-10.5%	-5.8%	9.4%	-19.7%	14.44	10.63	-15%	15%	18.13	5.56	-32%	120%
MSCI-Hong Kong			5698	-13.6%	3.5%	-7.8%	-13.5%	-3.1%	5.7%	-7.6%	6836	4913	-17%	16%	7292	2650	-22%	115%
Japan	EWJ	2A	15.00	-8.0%	-0.4%	-0.9%	-0.4%	0.8%	27.8%	9.1%	16.50	11.13	-9%	35%	16.50	7.69	-9%	95%
MSCI-Japan			3287	-8.0%	-1.3%	-4.6%	-0.8%	2.4%	29.8%	12.5%	3603	2391	-9%	37%	3603	1695	-9%	94%
Malaysia	EWM	2A	6.88	-2.5%	4.9%	12.2%	-11.9%	27.9%	21.7%	-46.6%	8.19	4.88	-16%	41%	16.13	1.69	-57%	307%
MSCI-Malaysia			224	15.2%	-1.4%	-0.6%	-8.2%	30.6%	46.1%	-40.0%	247	132	-9%	69%	458	54	-51%	313%
Singapore	EWS	2A	7.25	-21.1%	1.7%	7.4%	-7.2%	-14.7%	0.8%	-34.9%	9.38	6.75	-23%	7%	12.94	3.13	-44%	132%
MSCI-Singapore			311	-23.4%	-3.3%	-8.1%	-7.7%	-14.7%	-3.8%	-27.6%	421	305	-26%	2%	508	140	-39%	122%
Average WEBS Price Change				-11.6%	2.2%	4.1%	-7.2%	0.8%	9.5%	-20.9%								
Average MSCI Index Change				-8.2%	-0.6%	-4.8%	-7.7%	1.9%	13.0%	-14.2%								
Europe																		
Austria	EWO	2A	7.56	-9.0%	2.4%	-0.9%	-4.8%	-11.7%	-16.7%	-28.4%	9.63	7.06	-21%	7%	13.94	7.06	-46%	7%
MSCI-Austria			690	-15.7%	0.5%	-4.9%	-6.8%	-14.6%	-23.1%	-22.8%	897	659	-23%	5%	1264	659	-45%	5%
Belgium	EWK	NR	12.63	-21.7%	2.0%	-4.7%	-7.3%	-24.9%	-17.3%	-25.7%	18.19	11.50	-31%	10%	24.94	11.50	-49%	10%
MSCI-Belgium			1171	-22.0%	2.9%	-6.9%	-4.2%	-25.3%	-21.2%	10.2%	1579	1077	-26%	9%	1901	871	-38%	34%
France	EWQ	2A	27.75	0.4%	7.8%	3.7%	0.9%	10.7%	30.1%	76.2%	29.38	21.13	-6%	31%	29.38	12.50	-6%	122%
MSCI-France			1607	1.1%	3.6%	2.6%	0.1%	12.0%	30.1%	84.5%	1715	1196	-6%	34%	1715	696	-6%	131%
Germany	EWG	NR	24.75	-7.3%	2.6%	-1.2%	-11.8%	7.0%	21.7%	51.1%	29.25	19.94	-15%	24%	29.25	12.88	-15%	92%
MSCI-Germany			1606	-6.6%	2.2%	-4.5%	-12.7%	6.2%	17.3%	53.0%	1933	1290	-17%	24%	1933	813	-17%	98%
Italy	EWI	2A	24.19	-3.2%	4.0%	3.5%	-8.9%	12.5%	6.7%	53.0%	27.63	20.81	-12%	16%	30.69	13.13	-21%	84%
MSCI-Italy			443	-3.7%	4.5%	2.3%	-8.7%	11.4%	5.6%	79.2%	505	381	-12%	16%	505	202	-12%	119%
Netherlands	EWN	NR	23.69	-6.4%	3.0%	5.3%	-1.5%	-0.8%	1.7%	8.3%	25.88	21.94	-8%	8%	30.06	16.44	-21%	44%
MSCI-Netherlands			2197	-4.6%	3.1%	0.8%	0.3%	0.2%	5.4%	33.7%	2338	2020	-6%	9%	2354	1239	-7%	77%
Spain	EWP	2A	26.06	-7.8%	1.0%	-3.5%	-7.8%	-2.8%	-5.0%	30.3%	29.75	24.25	-12%	7%	33.69	13.38	-23%	95%
MSCI-Spain			383	-8.2%	1.8%	-6.3%	-9.7%	-1.8%	-1.0%	55.4%	441	350	-13%	10%	443	166	-14%	131%
Sweden	EWD	2A	32.75	11.0%	2.3%	8.7%	0.4%	27.5%	67.4%	80.6%	37.13	20.13	-12%	63%	37.13	13.31	-12%	146%
MSCI-Sweden			6145	13.1%	1.3%	6.1%	-1.7%	37.0%	81.8%	138.2%	7213	3311	-15%	86%	7213	1894	-15%	224%
Switzerland	EWL	NR	15.56	-2.8%	3.7%	2.0%	5.5%	-2.4%	3.7%	7.3%	16.63	14.06	-6%	11%	20.50	11.50	-24%	35%
MSCI-Switzerland			2437	-5.2%	2.6%	-0.5%	5.9%	-5.3%	-4.2%	24.2%	2601	2216	-6%	10%	2955	1524	-18%	60%
United Kingdom	EWU	NR	19.00	-11.4%	1.7%	1.0%	0.0%	-9.8%	-9.2%	13.0%	22.19	18.38	-14%	3%	22.88	12.13	-17%	57%
MSCI-United Kingdom			1144	-13.8%	1.3%	-3.4%	-0.5%	-10.6%	-8.8%	19.7%	1336	1118	-14%	2%	1336	701	-14%	63%
Average WEBS Price Change			-5.8%	3.1%	1.4%	-3.5%	0.5%	8.3%	26.6%									
Average MSCI Index Change			-6.6%	2.4%	-1.5%	-3.8%	0.9%	8.2%	47.5%									
Performance By Region																		
Americas—WEBS			-1.1%	2.9%	4.7%	-8.1%	9.8%	23.0%	29.8%									
Americas—MSCI Indices			1.5%	3.4%	7.1%	-8.0%	15.0%	27.1%	52.0%									
Asia—WEBS			-11.6%	2.2%	4.1%	-7.2%	0.8%	9.5%	-20.9%									
Asia—MSCI Indices			-8.2%	-0.6%	-4.8%	-7.7%	1.9%	13.0%	-14.2%									
Europe—WEBS			-5.8%	3.1%	1.4%	-3.5%	0.5%	8.3%	26.6%									
Europe—MSCI Indices			-6.6%	2.4%	-1.5%	-3.8%	0.9%	8.2%	47.5%									
Emerging Markets—WEBS			-12.6%	3.8%	5.8%	-11.6%	1.9%	9.3%	-20.1%									
Emerging Markets—MSCI Indices			-8.3%	0.4%	-4.2%	-11.4%	3.5%	12.7%	-9.5%									
Developed Markets—WEBS			-5.2%	2.5%	1.6%	-3.2%	1.7%	10.7%	23.2%									
Developed Markets—MSCI Indices			-5.4%	2.0%	-0.6%	-3.6%	2.7%	11.6%	42.0%									

APPENDIX C: Reprint of FRC Monitor, March 2000: Index-Based ETFs

INDUSTRY TRENDS

Are ETFs a Threat to the Fund Industry?

Exchange-Traded Funds Are Fast Growing, Now Top $35B in Assets

INDUSTRY TRENDS

After enduring five years of distinct obscurity, exchange-traded index funds, or ETFs, have become one of the fastest growing product categories in the mutual fund industry today. ETFs began to emerge into the investment mainstream in 1998, and over the past 15 months their popularity has exploded (although from a small base).

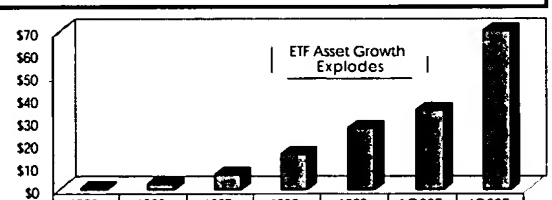
This popularity has created a flurry of product development activity from several major asset managers (primarily **Barclays** and **State Street Global Advisors**) and a great buzz within the industry about the potential competitive threat that ETFs represent to traditional mutual fund families.

Some commentators have opined that ETFs represent the "killer application" that will slay a mutual fund industry giant that has grown fat and lost the innovative touch necessary to compete in the age of e-commerce. They see ETFs as fundamentally superior products that are destined to eventually replace mutual funds.

There is no doubt that ETFs offer several benefits that make them a compelling alternative to traditional mutual funds for many investors. It would not be an exaggeration to say that the financial engineers at the American Stock Exchange have literally created a "better mousetrap" for at least some segments of the investing public.

FRC expects that ETF growth will continue its recent dramatic growth rates for many years to come. Indeed, we believe that ETFs may turn out to be the most significant new product category of this new decade. But that does not mean that mutual funds will be disappearing any time soon, or that the overall viability of fund management companies is in any sense problematic.

Exchange-Traded Fund Asset Growth ($B)



	1995	1996	1997	1998	1999	1Q00E	4Q00E
■ Assets ($B)	$0.6	$2.4	$6.8	$15.6	$27.0	$35	$70

Better Mousetrap?

Better mousetraps do not automatically replace older mousetraps. For example, numerous academics have made a compelling case that an indexed investing approach is superior to active management. Yet for their first 20 years, index mutual funds attracted little interest, and even in recent years, after their benefits have become widely known and appreciated, they still represent less than 10% of total equity mutual fund assets.

Similarly, fund supermarkets have been accurately described as better mousetraps, with features that traditional closed-system fund families simply could not match. Yet despite their much-celebrated growth, supermarkets have not come close to eliminating old model distribution of mutual funds. These index funds and supermarkets did not undermine the industry, but rather contributed to its rapid growth, and enhanced its ability to evolve and adapt to the needs of the investing public. FRC expects that ETFs will follow the same pattern.

ETFs will not *replace* mutual funds because they *are* mutual funds. Much like variable annuities, they are simply funds in a different package with additional features and benefits that could be compelling to many investors. Of course, there are many different kinds of pooled investments, both actively and passively managed. In addition to open-end funds and VAs there are UITs, closed-end funds, hedge funds, private equity funds, and commingled funds among others. ETFs are just another category of pooled securities.

Threat or Opportunity?

But are ETFs a threat to fund companies? That depends on the attitude of the company and how it defines itself.

If a firm looks at itself as only being in the business of manufacturing and distributing traditional open-end funds, and does not have a vision for expanding beyond that narrow definition, then the growth of ETFs is most definitely a threat to the franchise. ETFs would not be alone as a threat, though, as growth of separate accounts and other vehicles also compete with traditional open-end funds.

However, if a company sees itself in broader terms, as a manufacturer/distributor of pooled investment vehicles, then ETFs do not need to be feared or fought.

INDUSTRY TRENDS

Rather, ETFs should be embraced as a logical extension of the company's business and a mechanism to bring its asset management expertise to a new audience.

Fund groups can no longer afford to define themselves in narrow structural or regulatory terms, because these are not relevant concepts to investors. Firms must see themselves as asset managers who are in the business of providing investment vehicles to their customers in whatever forms they prefer, irrespective of legal structure. This opens up the door to all categories of alternative products, including ETFs. We must remember that what we call "alternative products" today, may be mainstream growth drivers tomorrow.

Some claim that the mutual fund industry is ripe for reinvention. In many ways this is true. For instance, while the cost of owning stocks has dropped sharply, the cost of owning mutual funds has not declined meaningfully. It is not a question of whether funds are a good value, but of whether they could easily become an even better value and whether or not price competition and innovative features from new product classes such as ETFs will force funds to bring that additional value to investors.

Impact to the Bottom Line

The greatest threat to a fund company from ETFs is not necessarily to its assets, but to its profit margins. Assets can potentially be retained by offering one's own ETFs, but if this is successful, it will lead to substantial margin erosion for those assets that are converted from traditional high-fee funds.

The expense differences are dramatic. Most ETFs charge less than half the average of comparable index funds, and from one-third to one-fifth of actively managed funds. State Street recently dropped the fee on its popular SPDR to just 12 bps, and it is expected that some of the new Barclays products could charge as little 8-10 bps.

Fee rates at these levels will mean that only a handful of firms with extremely large scale will be able to manage index ETFs profitably on a stand-alone basis. But that doesn't mean that everyone else can't benefit from offering them. Many investors will only want to place a portion of their assets into these vehicles, while leaving the rest in higher profit traditional funds. On an aggregate basis, these customers are still profitable, and potentially worth the cost of offering the ETF as a retention device. This will, of course, require that companies develop mechanisms to keep their ETFs under one common branding, servicing, and reporting umbrella with the rest of their mutual funds.

Most Threatened Asset Pools to Fuel ETF Growth

Category	Assets ($B)
S&P 500 Index Funds	$240
Other Index Funds	$115
Equity Unit Investment Trusts	$85
Equity Closed-End Funds	$45
Enhanced Index Funds	$40
Sector Funds	$230
Tax-Managed Funds	$27
Mutual Fund Total	**$782**
Individual Stocks	**$8,000**

Sources: FRC, ICI, Federal Reserve

The Big Opportunity

But why focus on the potential to cannibalize current business? Why not look at ETFs as an opportunity to bring individual-security buyers back into the world of pooled investment vehicles and to recapture the wallet share that has been lost over the past couple of years to the discount and online brokerages?

Households currently have more than $8 trillion in individual corporate equities compared to just $3.1 trillion in long-term mutual funds [see related article on page 10]. Since ETFs are a hybrid of funds and individual securities, they are an ideal bridge to attract stock investors into (or back into) funds. Even a small portion of their stock holdings would go a long way toward providing needed scale economies for fund companies. And once they are back in the fold, the opportunity exists to cross-sell higher fee products that might not have been considered before.

Until actively managed ETFs can be created [see the April issue of the *FRC Monitor* for more on this topic], ETFs will draw business primarily away from individual stocks, index funds, closed-end funds, UITs, and sector funds. The accompanying chart identifies the size of these "raidable" products. Those companies that have insignificant exposure to these product areas have little short-term reason to fear cannibalization and they also have an opportunity to take business away from the large players in these product types.

The timing of ETF product development efforts will be critical. Early adopters will likely benefit from a substantial "first-mover" premium. This will come from a groundswell of free media coverage and the opportunity to brand the firm as an innovator in a culture that seems to idolize innovation.

Exchange-traded funds will be a powerful force for change in the mutual fund industry over the next decade. As always, though, change will mean a threat for some and an opportunity for others. Those firms that choose to embrace the change will be best positioned to succeed in spite of the potential threat. ◆FRC — *Gavin Quill*

APPENDIX D: Reprint from FRC Monitor, April 2000: Actively Managed ETFs

INDUSTRY TRENDS

Actively Managed ETFs: Theory or Reality?

Will this Not-Yet-Invented Product be a Sideshow or Threat to the Fund Industry?

In last month's *FRC Monitor*, we examined the recent explosive growth of index-based exchange-traded funds (ETFs) and considered the competitive threat and opportunity that these products represent to asset managers in general and the mutual fund industry in particular.

This month we will explore the prospects for the creation of an entirely new class of ETFs, which would not be tied to any index but instead would be actively managed for the first time. Actively managed ETFs have yet to be invented. For now, they exist only as a very exciting theory about a type of product that may possibly be engineered at some indefinite point in the future.

It is important to distinguish between these two fundamentally different types of ETFs, index-based and actively managed. There is a lot of talk about new mutual funds that provide all of the benefits of traditional funds combined with the features and advantages of tradable stocks. So far, however, very few of these funds actually exist (30 products from only two asset managers), most are very new (less than five years old), and all are index-based.

It took a great deal of financial engineering and regulatory appealing to create the current class of index-based (IB) ETFs. It was a long process which took several years to initially pass muster with the SEC. Even after the first ETF was approved in 1993, its sponsor **State Street Global Advisors** has had to continue to fine-tune its features in order to make subsequent product offerings more structurally appealing.

Five years after the first ETF introduction, all ETFs combined had raised less than $7 billion. Arcane financial engineering may produce theoretically better products, but that clearly does not guarantee that their superior benefits will be quickly recognized or embraced by the investing public. Finally, over the past two years, IB ETFs have begun to capture both investor attention and significant assets, rising to $37 billion at mid-April.

Actively Managed ETFs

- **Exist now only as an exciting theory about a product that possibly may be engineered in the future.**
- **SEC has technical and policy issues with the potential product.**
- **Earliest likely product introduction will be late 2001 or in 2002.**
- **Experts expect $58 billion will be raised in first year of new product.**

ETF pioneers State Street and **Barclays** have filed applications with the SEC for up to 58 new IB products, which would triple the number of existing ETFs. **Merrill Lynch** has launched 8 new HOLDRs (Holding Company Depository Receipts) designed to compete with ETFs, which in only a year have raised more than $8 billion. **Nuveen** has been very explicit about its plans to aggressively enter the ETF world, and many other fund families, most notably **Vanguard**, have been rumored to be actively considering their own new offerings in this arena.

Clearly, ETFs are about to break through into the mainstream investing world. Yet amidst this flurry of product development efforts there is not one actively managed product to be found. No one has yet to file a request with the SEC for anything other than index-based offerings.

Obstacles Abound

Actively managed (AM) ETFs have yet to be filed with the SEC because nobody has yet been able to figure out how to create one. Indeed, most financial professionals find it hard to conceptualize how such an instrument might be constructed even in theory. If you have tried and failed to grasp the concept, you have plenty of company. It seems that only a few rocket scientists at the American Stock Exchange, and a handful of the financial engineers who helped pioneer the IB version, have the ability to envision the mechanics of putting together an actively managed ETF.

Of course, even if the conceptual and technical issues can be worked out, there are very distinct regulatory hurdles that will then have to be faced. Paul Roye, the director of the SEC Division of Investment Management, has already expressed pre-emptive concerns about AM ETFs from both a technical and a policy perspective.

On the technical side, Roye correctly notes that the mechanics of IB ETFs require precise knowledge about

what securities are held in the underlying portfolio so that specialists that support the portfolios can maintain appropriate hedging positions. How can equivalent information be provided for managed funds? This would require real-time portfolio disclosure, and real-time public availability of all purchase and sale decisions by a fund manager, allowing others to copy and even undermine a manager's trading strategy.

On the policy side, Roye is worried about encouraging the day trading of mutual funds, which have traditionally been viewed as long-term vehicles. He believes that if AM ETFs are permitted, they might engender "a short-term trading mentality in fund shares spilling over into the non-exchange-traded class of fund shares."

FRC does not believe that the ability to trade more frequently will necessarily lead many investors to meaningfully increase their trading velocity. But if the top fund regulator believes otherwise, then we should expect at best to see a continuation of the very lengthy approval periods that have been the norm to date for index-based ETFs.

Expert Expectations

FRC is currently working on a comprehensive study of exchange-traded funds. As part of the research process, we have spoken to a broad cross-section of ETF specialists at the national wirehouses, regional U.S. and Canadian brokerages, a specialist trading firm, and the American Stock Exchange. These insiders are best positioned to evaluate the potential for new product development in the highly speculative arena of actively managed ETFs. Their opinions are the closest thing available to a roadmap for where the ETF industry is headed over the next few years and the closest thing we have to answers for the critical questions the fund industry is asking about the product's potential to emerge as a significant threat.

Nearly all of these experts believe that IB ETFs are a significant challenge to traditional index mutual funds, but only one-third saw AM ETFs as a significant challenge to traditional actively managed mutual funds. Those that did believe that the AM version would emerge as a meaningful challenge, however, did not see it happening for at least two more years.

Those most involved in monitoring the ETF world do not see the first AM ETFs being introduced any time soon. The most optimistic 25% don't expect to see these products brought to market until late 2001. One-third think we will have to wait until 2002. Notably, one-third of these experts aren't sure if there really is a need to create this class of investment vehicles or else they are skeptical that anyone will ever be able to successfully engineer them.

The biggest obstacles identified by this group were the same regulatory and technical challenges that SEC's Roye has spoken about. Other significant obstacles listed were profitability and the need for investor education.

On the IB side, expense ratios are razor thin, requiring substantial asset gathering ability to generate meaningful profits. However, if actively managed ETFs are offered, they should probably be able to avoid the cut-throat margins of their index-based predecessors just as they have been able to do on the traditional fund side. Nevertheless, there will be pressure to meaningfully undercut typical expense ratios for actively managed funds.

Even if AM ETFs prove to be a "better mousetrap" on paper, it will still take a tremendous amount of education to convince investors of these benefits. Although these instruments should be reasonably simple in terms of how they may be bought and sold, their structure will undoubtedly be extremely complex. Due to this factor, it may take a great deal of time and money to bring average investors up to the comfort level necessary for them to make a purchase decision.

Asset Projections

Expectations for IB ETF asset growth over the next one, three, and five years are very similar to those for AM ETF growth over the same periods, beginning with the introduction of the first products in this new class (still two years away). This means that ETFs are currently expected to have a much larger percentage impact on traditional index funds than upon traditional actively managed funds. Although the total dollar projections for both classes are roughly equal, actively managed funds currently hold ten times the assets of index funds, so actively managed funds should feel the effects of ETF growth proportionally that much less than index funds.

Over the next five years, asset growth for IB ETFs will accelerate moderately in terms of total dollars, but will slow in percentage terms to a range of 30-50% per year. The average projection calls for assets of $201 billion in five years time, though estimates ranged as high as $500 billion. Consensus figures call for IB ETFs to capture 27% of total index fund assets by 2005, compared to just 8% today.

If AM ETF products can ultimately be brought to market by 2002, the average expectation is for assets to grow rapidly during the first year to $58 billion. Early adopters will fuel this growth, transferring assets from

Actively managed exchange-traded funds have yet to be filed with the SEC because nobody has yet been able to figure out how to create one.

Expert Expectations of ETF Growth Rates

	One Year	Three Years	Five Years
Index-Based			
Average Annual Growth Rate	30-50%	30-50%	30-50%
Estimated Assets (average)	$61B	$132B	$201B
Estimated Assets (high)	$100B	$300B	$500B
Share Index Fund Universe	16%	21%	27%
	One Year	Three Years	Five Years
Actively Managed			
Average Annual Growth Rate	N/A	30-50%	30-50%
Estimated Assets (average)	$58B	$194B	$244B
Estimated Assets (high)	$300B	$400B	$500B

individual equity holdings, a pool of as much as $10 trillion in assets by 2002, and equity fund holdings, a pool of about $4 trillion.

After that, the challenge of educating the majority of investors will take over, causing growth rates to fall to the range of 30-50% annually, and bringing total AM ETF assets to $244 billion five years out in 2007. Here again, estimates ranged as high as $500 billion.

It should be noted that these forecasts are highly speculative and are based far more on educated guesses than upon carefully constructed models with reliable input parameters. Such is the nature of predicting the growth of something that has not yet been invented.

What Should Fund Companies be Doing?

Despite the many obstacles that face actively managed ETFs, FRC believes it is reasonable to assume that the technical problems will eventually be overcome and that the regulatory barriers will also eventually be surmounted. Today it can take as long as 12-18 months for an IB application to pass muster with the SEC, despite the fact that the SEC has already approved 30 products that are substantially similar.

We expect that the SEC won't wait too much longer before it creates new rules that would expedite the current application process at least partially, but there are no guarantees. Since AM ETFs present a whole range of new issues and concerns, these products will probably not benefit from any loosening of the case-by-case scrutiny that their IB counterparts may eventually enjoy. Indeed, it is possible that AM applications will not just be delayed, but that they might not receive approval at all.

Can fund companies afford to wait and see how things unfold? For many, the answer may be yes. ETFs represent more of an evolution than a revolution. The difference between the two is time. Evolutionary change can be quite substantial, but it unfolds at a pace that allows some deliberation and planning in response.

FRC believes that over time both classes of ETFs will become substantial competitors to traditional mutual funds and other investment products. On the IB side, this trend is well underway. If a company sees indexed products as a meaningful component of its business strategy, then the time to begin product development efforts in this area is now. However, those firms that are committed to an exclusively actively managed approach may still have a window of time to monitor developments before they need to actively pursue their own development plans.

Firms that want to exercise market leadership should consider beginning an active research effort now in preparation for ETF development down the road. This is true even if firms don't see themselves as indexers. There is a big learning curve that must be worked through with these products. Their creation is far more complicated than anything most product development departments have had to deal with in the past.

It would be wise for firms to "incubate" a knowledge base about how these products are constructed. Begin now with even a single index fund, then migrate up to an enhanced index fund as the technical difficulties with this are worked out (expected by year-end).

When or if the technical and regulatory challenges to actively managed ETFs are overcome, firms will then be ready to move quickly to capitalize on these breakthroughs and have a chance to capture some of the first mover premium which these products are likely to offer. ♦FRC — *Gavin Quill*

APPENDIX E: QUESTIONNAIRE FOR EXCHANGES, SPECIALISTS & ANALYSTS

Survey Design: Financial Research Corporation

This survey instrument was used to structure a series of in-depth face-to-face interviews with leading ETF experts at a wide variety of major brokerage firms (national, regional and Canadian), as well as specialist firms, and the American Stock Exchange (the world's leading ETF exchange). These interviews were conducted throughout March 2000.

1. Do you think index-based ETF's will be a significant challenge to index funds? How soon?

   a. They already are ☐
   b. Yes, within a year ☐
   c. Yes, within three years ☐
   d. Probably not ☐
   e. Never ☐

2. Do you think actively managed ETF's will be a significant challenge to actively managed mutual funds? How soon?

   a. They won't be created ☐
   b. Yes, within a year ☐
   c. Yes, within three years ☐
   d. Probably not ☐
   e. Never ☐

3. What existing businesses do you believe are most challenged by the future growth of ETF's? Which firms?

		Examples
a. Regional brokers	☐	
b. Discount brokers	☐	
c. Insurance companies	☐	
d. Banks	☐	
e. Internet brokers	☐	
f. nstitutional asset managers	☐	
g. HNW advisors	☐	
h. Fee based advisors	☐	
i. Retail fund managers	☐	
j. Specialists	☐	
k. Index providers (Dow, S&P)	☐	
l. OTHER	☐	

Comments: ______

4. What existing businesses do you believe will benefit the most from the future growth of ETF's? Which firms?

		Examples
a. Exchanges	☐	
b. Wirehouses	☐	
c. Regional brokers	☐	
d. Discount brokers	☐	
e. Insurance companies	☐	
f. Banks	☐	
g. Internet brokers	☐	

		Examples
h. Institutional asset managers	☐	________
i. HNW advisors	☐	________
j. Fee based advisors	☐	________
k. Retail fund managers	☐	________
l. Specialists	☐	________
m Index providers (Dow, S&P)	☐	________
n. OTHER	☐	________

Comments: ________

5. Will index-based ETF's remain a niche product?

   a. Definitely ☐
   b. Probably ☐
   c. No, but they still won't have extremely broad appeal ☐
   d. No, they are likely to take substantial share from index funds ☐

6. If actively managed ETF's are offered, how would you rate their potential popularity compared to the future potential of index-based ETF's?

   a. Substantially more popular ☐
   b. Moderately more ☐
   c. Slightly more ☐
   d. About the same ☐
   e. Less popular ☐

7. How would you rate the following assertion: Actively managed ETF's could be the biggest breakthrough for retail fund investors since the creation of fund supermarkets?

   a. Definitely ☐
   b. Probably ☐
   c. Maybe ☐
   d. Unlikely ☐
   e. Definitely not ☐

8. When do you expect to see the first actively managed ETF's?

   a. By year-end 2000 ☐
   b. 2001 — 1st half ☐
   c. 2001 — 2nd half ☐
   d. 2002 ☐
   e. Never ☐

9. What new ETF products do you expect to see over the next year from exchanges, brokerages and asset managers?

   Comments: ________

10. What are the biggest obstacles you envision to the future success of ETF's?

a. Technical ☐
b. Regulatory ☐
c. Distributor Cooperation ☐
d. Profitability ☐
e. Investor Demand ☐
f. OTHER ☐

Comments: ______________________________

11. What percent of future index-based ETF business will be retail vs. institutional? What do you expect the split to be for actively managed ETF's?

	Index-Based	Actively Managed
a. 0-10%	☐	☐
b. 11-20%	☐	☐
c. 21-30%	☐	☐
d. 31-40%	☐	☐
e. 41-50%	☐	☐
f. 51-60%	☐	☐
g. 61-70%	☐	☐
h. 71-80%	☐	☐
i. >80%	☐	☐

12. Several small fund companies are rolling out their own ETF's. How big a trend do you think this will be in the fund industry?

a. A niche (only a few specialized fund companies) ☐
b. Modest (a few small and a few very large fund families in limited objectives) ☐
c. Substantial (many fund companies in a moderate range of objectives) ☐
d. Huge (most fund companies in a wide range of investment objectives) ☐

13. Which fund companies are most likely to do so?

a. Vanguard ☐	g. AIM ☐	m. Oppenheimer ☐
b. Fidelity ☐	h. T.Rowe ☐	n. Merrill Lynch ☐
c. Schwab ☐	i. American Cent. ☐	o. Smith Barney ☐
d. Putnam ☐	j. MFS ☐	p. Prudential ☐
e. Janus ☐	k. American Exp. ☐	q. Invesco ☐
f. Franklin ☐	l. Morg. Stan. DW ☐	r. Scudder Kemper ☐

OTHER (name) ______________________________

14. Which fund companies will it make sense for?

a. Only the largest players ☐
b. Only the big index fund players ☐
c. Only those with viable supermarkets ☐
d. Most full product line companies ☐
e. New niche ETF specialists ☐

15. What are the chances that we might see the creation of an entirely parallel industry to mutual funds? One with dozens of ETF families, offering a wide variety of their own actively managed ETF's?

    a. Highly likely ☐
    b. Reasonably likely ☐
    c. Possible, not probable ☐
    d. Unlikely ☐
    e. Never ☐

16. Do you expect to see open-end fixed income ETF's? Taxable? Municipal?

    a. Yes, within a year ☐
    b. Yes, within three years ☐
    c. Not likely ☐
    d. Not necessary ☐

    Comments: ______________________________

17. Rate the following groups for their potential level of interest in or benefit from purchasing ETF's (index or active)

    1 = Little/No interest; 2 = Small/moderate interest; 3 = Strong interest; 4 = Very Strong

    a. Portfolio managers ____
    b. Institutions ____
    c. Fee based advisors ____
    d. Traditional brokers ____
    e. High net worth individuals ____
    f. Retail active traders ____
    g. Retail buy and hold investors ____
    h. Fund investors looking for more flexibility ____
    i. Individual security buyers looking for simplicity and lower cost ____

18. How much ETF promotional effort (advertising etc.) do you expect to see? Financed by whom?

	None	Little	Moderate	Heavy
a. Exchanges	☐	☐	☐	☐
b. Sponsors	☐	☐	☐	☐
c. Advisors	☐	☐	☐	☐
d. Fund Companies	☐	☐	☐	☐
e. Full Service Brokerages	☐	☐	☐	☐
f. Discount Brokerages	☐	☐	☐	☐
g. Index Sponsors (Dow, S&P)	☐	☐	☐	☐

19. What annualized growth rate of assets do you expect index-based ETF's will experience over the next 1, 3, or 5 years?

	One Year	Three Years	Five Years
a. 0-10%	☐	☐	☐
b. 11-20%	☐	☐	☐
c. 21-30%	☐	☐	☐
d. 31-50%	☐	☐	☐
e. 51-75%	☐	☐	☐
f. 76-100%	☐	☐	☐
g. > 100%	☐	☐	☐

20. Today, index funds are more than ten times as large as index based ETF's (~$350B vs. ~$32 B). Index funds control 92% of the combined assets vs. only 8% for ETF's. What percent share do you expect index-based ETF's will control in 1, 3, or 5 years?

	One Year	Three Years	Five Years
a. 8-10%	☐	☐	☐
b. 11-15%	☐	☐	☐
c. 16-20%	☐	☐	☐
d. 21-25%	☐	☐	☐
e. 26-30%	☐	☐	☐
f. 31-40%	☐	☐	☐
g. 41-50%	☐	☐	☐
h. 51-75%	☐	☐	☐
i. > 75%	☐	☐	☐

21. With index-based ETF's standing at $32B today, how large do you think they'll grow in the next few years (not including actively managed versions)?

	One Year	Three Years	Five Years
a. $30-50B	☐	☐	☐
b. $51-75B	☐	☐	☐
c. $76-100B	☐	☐	☐
d. $101-150B	☐	☐	☐
e. $151-200B	☐	☐	☐
f. $201-250B	☐	☐	☐
g. $251-300B	☐	☐	☐
h. $301-400B	☐	☐	☐
i. $401-500B	☐	☐	☐
j. > $500B	☐	☐	☐

22. If actively managed ETF's (exchange traded mutual funds) were to be offered today, what percentage of equity mutual fund assets do you think they would account for over time? What "market share" of total equity mutual fund assets do you expect them to control after1, 3, or 5 years? Today their share is, of course, 0%.

	One Year	Three Years	Five Years
a. 0-5%	☐	☐	☐
b. 6-10%	☐	☐	☐
c. 11-15%	☐	☐	☐
d. 16-20%	☐	☐	☐
e. 21-25%	☐	☐	☐
f. 26-30%	☐	☐	☐
g. 31-35%	☐	☐	☐
h. 36-40%	☐	☐	☐
i. > 40%	☐	☐	☐

23. If actively managed ETF's were to be offered today, how large do you think they will grow to in the next few years (not including index based versions)? For context, there is currently $3.7 trillion in actively managed equity mutual fund assets.

	One Year	Three Years	Five Years
a. $0-10B	☐	☐	☐
b. $11-20B	☐	☐	☐
c. $21-50B	☐	☐	☐
d. $51-100B	☐	☐	☐
e. $101-150B	☐	☐	☐
f. $151-200B	☐	☐	☐
g. $201-300B	☐	☐	☐
h. $301-400B	☐	☐	☐
i. $401-500B	☐	☐	☐
j. $501-750B	☐	☐	☐
k. $751B-1.0T	☐	☐	☐
l. > $1 trillion	☐	☐	☐

24. Can ETF's provide the necessary level of compensation to the distributing firm and the broker?

a. Yes ☐
b. Probably ☐
c. Probably Not ☐
d. No ☐

25. How important is the brand name recognition of the underlying index to the success of an index-based ETF?

a. Very important (only the big names would interest me) ☐
b. Moderately important ☐
c. Not very important ☐
d. Not important at all ☐

26. Are index based ETF's inherently more tax efficient than index funds?

a. Yes, always ☐
b. Yes, usually ☐
c. Not better, but equal ☐

Comments: ______________________________

27. How will index-based ETF's perform if the stock market suffers a one-day crash of 15-20%?

a. No tracking problem .... ☐
b. Small, temporary tracking problem .... ☐
c. Moderate tracking problem .... ☐
d. Large tracking problem .... ☐

Comments: ______________________________

28. Since they use a similar arbitrage mechanism, can they be likened to futures which dropped to a 10% discount for the S&P 500 on Black Monday October 1987?

Comments: ______________________________

29. How could specialists hedge their risk in an actively managed portfolio?

Comments: ______________________________

30. Do you think there will be a need for a separate exchange for ETF's similar to the CBOE for options?

a. Yes .... ☐
b. No .... ☐
c. Maybe .... ☐

Comments: ______________________________

APPENDIX F: EXCHANGE TRADED FUNDS QUESTIONNAIRE FOR BROKERS & PLANNERS

Survey Design: Financial Research Corporation

This survey instrument was used to probe the attitudes and expectations of a sample group of pioneering brokers and financial planners who are already using Exchange Traded Funds in their clients' portfolios. Survey responses were received throughout March 2000. Section A details how these financial professionals actually use ETFs, while Section B probes a subset of the general forecasting questions used in the survey instrument for Exchanges, Specialists & Analysts. To save space, the response selections have been eliminated from Section B, but these questions can be referenced to their counterparts in Appendix E.

SECTION A: PRACTICE SPECIFIC QUESTIONS

1. Do you currently use index based ETF's?

   a. Yes .... ☐
   b. No .... ☐

2. If not, do you expect to use them in the future?

   a. Definitely will .... ☐
   b. Probably will .... ☐
   c. Maybe will .... ☐
   d. Probably not .... ☐
   e. Definitely not .... ☐

3. If yes, what types of ETF's do you currently use?

   a. SPDRs .... ☐
   b. MidCap SPDRs .... ☐
   c. Sector SPDRs .... ☐
   d. DIAMONDS .... ☐
   e. Nasdaq-100 .... ☐
   f. WEBS .... ☐
   g. OTHER (name) ______________________

4. What types of asset classes, objectives, sectors or indices would you like to see created for potential use in your business?

		Specific Names
a. Dow Sectors	☐	______
b. Other S&P Sectors	☐	______
c. Nasdaq/sectors	☐	______
d. Russell/sectors	☐	______
e. Other Intern'l equity	☐	______
f. Other U.S. equity	☐	______
g. U.S. Bond	☐	______
h. International Bond	☐	______

   i. OTHER ______________________

5. What percent of your clients use ETF's?

   a. 1-10% .... ☐
   b. 11-20% .... ☐
   c. 21-30% .... ☐
   d. 31-40% .... ☐
   e. 41-50% .... ☐
   f. 51-60% .... ☐
   g. 61-70% .... ☐
   h. 71-80% .... ☐
   i. 81-90% .... ☐
   j. 91-100% .... ☐

6. What percent of your assets under management are in ETF's?

a. 1-10% . . . . ☐
b. 11-20% . . . . ☐
c. 21-30% . . . . ☐
d. 31-40% . . . . ☐
e. 41-50% . . . . ☐
f. 51-60% . . . . ☐
g. 61-70% . . . . ☐
h. 71-80% . . . . ☐
i. 81-90% . . . . ☐
j. 91-100% . . . . ☐

7. Do you use them purely as trading vehicles or do they form part of a longer-term buy and hold strategy?

a. Primarily trading vehicle . . . . ☐
b. Roughly even mix of both . . . . ☐
c. Primarily for buy & hold . . . . ☐

8. If you were not using ETF's what vehicles would you allocate these assets to?

a. Primarily index mutual funds . . . . ☐
b. Primarily actively managed fund . . . . ☐
c. Primarily individual securities . . . . ☐
d. A mix of funds and securities . . . . ☐
e. OTHER (name) ____________________

9. How much interest would you have in using actively managed ETF's or exchange traded mutual funds in your clients' portfolios?

a. Significant interest . . . . ☐
b. Moderate interest . . . . ☐
c. As a niche product . . . . ☐
d. Little interest . . . . ☐
e. No interest . . . . ☐

10. If interested, how would you use this new type of ETF in your clients' portfolios?

a. To replace most/all mutual funds . . . . ☐
b. Primarily in place of mutual funds . . . . ☐
c. Primarily in place of individual securities . . . . ☐
d. Primarily in place of index based ETF's . . . . ☐
e. To replace a mix of funds & securities . . . . ☐
f. OTHER (name) ____________________

11. Rate the importance of the following ETF features to your business and your clients.

(1 = not important; 2 = small importance; 3 = moderate importance; 4 = high importance)

a. Continual pricing . . . . ____
b. Margin ability . . . . ____
c. Short sell ability . . . . ____
d. Low expenses . . . . ____
e. Tax efficiency . . . . ____
f. Simplicity . . . . ____
g. Access to specialized indices . . . . ____
h. OTHER ____________________

12. How satisfactory is the compensation available from the sale of ETF's? Could it deter you from using these products?

    a. Sufficient (not a deterrent) .... ☐
    b. Somewhat low (a small deterrent) .... ☐
    c. Far too low (a significant deterrent) .... ☐

13. How important to you is the brand name recognition of the underlying index in an index-based ETF?

    a. Very important (only the big names would interest me) .... ☐
    b. Moderately important .... ☐
    c. Not very important .... ☐
    d. Not important at all .... ☐

14. Do you want to see the creation of fixed income ETF's? Taxable? Municipal?

    a. Strong interest .... ☐
    b. Moderate interest .... ☐
    c. Small interest .... ☐
    d. No interest .... ☐

SECTION B: GENERAL INDUSTRY QUESTIONS

1. Do you think index-based ETF's will be a significant challenge to index funds? How soon?

___

2. Do you think actively managed ETF's will be a significant challenge to actively managed mutual funds? How soon?

___

3. What existing businesses do you believe are most challenged by the future growth of ETF's? Which firms?

___

___

4. What existing businesses do you believe will benefit the most from the future growth of ETF's? Which firms?

___

___

5. Will index-based ETF's remain a niche product?

___

6. If actively managed ETF's are offered, how would you rate their potential popularity compared to the future potential of index-based ETF's?

___

___

7. How would you rate the following assertion: Actively managed ETF's could be the biggest breakthrough for retail fund investors since the creation of fund supermarkets?

___

___

8. What are the biggest obstacles you envision to the future success of ETF's?

9. Several small fund companies are rolling out their own ETF's.How big a trend do you think this will be in the fund industry?

10. Which fund companies are most likely to do so?

11. Rate the following groups for their potential level of interest in or benefit from purchasing ETF's (index or active)

12. What annualized growth rate of assets do you expect index-based ETF's will experience over the next 1, 3, or 5 years?

13. Today, index funds are more than ten times as large as index based ETF's (~$350B vs. ~$32 B). Index funds control 92% of the combined assets vs. only 8% for ETF's. What percent share do you expect index-based ETF's will control in 1, 3, or 5 years?

14. With index-based ETF's standing at $32B today, how large do you think they'll grow in the next few years (not including actively managed versions)?

15. If actively managed ETF's (exchange traded mutual funds) were to be offered today, what percentage of equity mutual fund assets do you think they would account for over time? What "market share" of total equity mutual fund assets do you expect them to control after 1, 3, or 5 years? Today their share is, of course, 0%.

16. If actively managed ETF's were to be offered today, how large do you think they will grow to in the next few years (not including index based versions)? For context, there is currently $3.7 trillion in actively managed equity mutual fund assets.

APPENDIX G: QUESTIONNAIRE FOR RETAIL ETF PURCHASERS & ACTIVE INQUIRERS

SURVEY DESIGN: FINANCIAL RESEARCH CORPORATION

This survey instrument was used to probe the attitudes and behaviors of retail investors who have taken an active interest in Exchange Traded Funds (defined as personally requesting information about the World Equity Benchmark Shares or WEBS). These "early adopters" provide preliminary insights as to how ETFs may be used by retail investors in the future. Not all participants have chosen to purchase an ETF, but those who did not can still be considered active or informed inquirers, and thus differentiated from the general retail investing public which is generally unaware of the features and benefits of ETFs. Telephone survey responses were conducted from May 9-11, 2000.

1. Have you ever purchased an Exchange Traded Fund such as a Spider, Diamond, Cube or Web?

   a. Yes .... ☐ (Ask Questions 2, 3, 4B, 5B, 6B, 7 & 8)
   b. No .... ☐ (Ask Questions 3, 4A, 5A & 6A)

2. If so, which type of Exchange Traded Fund have you purchased?

   a. Spider (S&P 500) .... ☐
   b. Diamond (Dow 30) .... ☐
   c. Cube (Nasdaq 100/QQQ) .... ☐
   d. Web .... ☐ Which countries?____________________
   e. MidCap Spider .... ☐
   f. Sector Spider .... ☐ Which sector?____________________
   g. Other .... ☐ Name?____________________

3. On a scale from 1-4, how important to you are the following benefits offered by Exchange Traded Funds? (1 = small/no importance; 2 = moderate importance; 3 = high importance; 4 = very high importance)

   a. They are priced continuously throughout the day, as opposed to traditional mutual funds which are only priced once at the end of the day. Score = ______
   b. They have much lower expense ratios than most actively managed mutual funds, and are even lower than many index mutual funds. Score = ______
   c. They are substantially more tax-efficient than most actively managed mutual funds, and are even more tax-efficient than many index mutual funds. Score = ______
   d. They offer more flexibility in terms of trading and taxes than traditional mutual funds. Score = ______
   e. They offer roughly the same trading and tax benefits as individual stocks, but also offer the diversification of traditional mutual funds. Score = ______
   f. They allow you to buy an entire market sector with only one trade. Score = ______
   g. They allow you to invest in market sectors and market indices that traditional mutual funds do not offer. Score = ______

4A. For those who have not purchased an ETF:

   How interested are you in purchasing an Exchange Traded Fund in the future?

   a. Little/No Interest .... ☐
   b. Somewhat Interested .... ☐
   c. Very Interested .... ☐
   d. Extremely interested .... ☐

4B. For those who have purchased an ETF:

How interested are you in purchasing other Exchange Traded Funds in the future? (not counting the trading of the ETFs you currently own)

5A. For those who have not purchased an ETF:

If you were to purchase an Exchange Traded Fund in the future, which of the following investments might you replace or forgo because of this purchase? (Check more than one if applicable)

a. Individual stocks ☐
b. Index mutual funds ☐
c. U.S. Sector mutual funds ☐
d. U.S. Actively managed non-sector mutual funds ☐
e. International country or regional funds ☐
f. Unit Investment Trusts (UITs) ☐
g. Closed-end Funds ☐
h. None ☐

5B. For those who have purchased an ETF:

When you purchase Exchange Traded Funds, which of the following investments do you replace or forgo because of these purchases? (Check more than one if applicable)

a. Individual stocks ☐
b. Index mutual funds ☐
c. U.S. Sector mutual funds ☐
d. U.S. Actively managed non-sector mutual funds ☐
e. International country or regional funds ☐
f. Unit Investment Trusts (UITs) ☐
g. Closed-end Funds ☐
h. None ☐

6A. For those who have not purchased an ETF:

If you were to purchase an Exchange Traded Fund, what is the primary channel through which you would make the purchase?

a. Discount brokerage ☐
b. Full service brokerage ☐
c. Internet brokerage ☐
d. Bank brokerage ☐
e. Fee based financial planner ☐

6B. For those who have purchased an ETF:

What is the primary channel through which you prefer to purchase Exchange Traded Funds?

____

____

____

7. For those who have purchased an ETF:

What percent of your total equity assets (stock mutual funds & individual stocks) have you invested in Exchange Traded Funds?

a. 1-10% .... ☐
b. 11-20% .... ☐
c. 21-30% .... ☐
d. 31-40% .... ☐
e. 41-50% .... ☐
f. 51-60% .... ☐
g. 61-70% .... ☐
h. 71-80% .... ☐
i. 81-90% .... ☐
j. 91-100% .... ☐

8. For those who have purchased an ETF:

Do you use your Exchange Traded Funds primarily as trading vehicles or do they form part of a longer-term buy and hold strategy?

a. Primarily as a trading vehicle .... ☐
b. Roughly even mix of both .... ☐
c. Primarily for buy & hold .... ☐

APPENDIX H: EXCHANGE TRADED INDEX FUND STUDY

GENERAL RETAIL INVESTORS – "PROSPECT" POPULATION

SURVEY DESIGN: FINANCIAL RESEARCH CORPORATION & MARKET FACTS INC.

This survey instrument was used for FRC by Market Facts, a leading provider of custom marketing research. It gauges the awareness of the general retail investing public concerning Exchange Traded Funds and their attributes. As expected at this early stage in their development, ETFs are still not well known by the overwhelming majority of investors. However, this questionnaire highlights the attitudes of these qualified "prospective" investors toward the various features and benefits that ETFs offer, in order to rate how important these characteristics could potentially be in influencing future purchase decisions.

Surveys were conducted by telephone from April 7-9th, 2000. More than 2000 households were included. After screening, more than 800 qualified respondents were identified. Qualified respondents were those most responsible in their households for making investment decisions.

1. Who in your household is most responsible for making investment decisions? Would you say ... (READ LIST. ENTER SINGLE RESPONSE.)

	You are	1	
	You share responsibility with someone else, or	2	
	Someone else is responsible	3	(TERMINATE)
(DO NOT READ)	Don't know	X	(TERMINATE)
(DO NOT READ)	Refused	R	(TERMINATE)

2. Do you or does anyone in your household have ... (INSERT)? (DO NOT RANDOMIZE.)

	Yes	No	Don't Know	Refused
An employer sponsored retirement plan like a 401(k) **(FOUR-OH-ONE-KAY)** or a 403(b)**(FOUR-OH-THREE-BEE)**	1	2	X	R
An investment such as a mutual fund, stocks or bonds, an IRA, or an annuity that is outside of an employer-sponsored retirement plan	1	2	X	R

ASK QUESTION 3 IF "YES" TO "AN INVESTMENT SUCH AS A MUTUAL FUND, STOCKS OR BONDS, AN IRA, OR AN ANNUITY THAT IS OUTSIDE OF AN EMPLOYER-SPONSORED RETIREMENT PLAN" IN Q. 2; OTHERWISE, TERMINATE.

3. Do you or does anyone in your household have ... (INSERT)? (DO NOT RANDOMIZE.)

	Yes	No	Don't Know	Refused
A full service brokerage account	1	2	X	R
A discount brokerage account	1	2	X	R
An Internet trading account	1	2	X	R

4. Which of the following ranges best describes the value of your household's total investments? Please include CD's, mutual funds, stocks, bonds, and IRA's, but NOT any investments you have in real estate, business ventures or any assets in employer-sponsored retirement plans like a 401(k) or 403(b). (READ LIST. ENTER SINGLE RESPONSE.)

	Under $25,000	1
	$25,000 to less than $50,000	2
	$50,000 to less than $100,000	3
	$100,000 to less than $250,000	4
	$250,000 to less than $500,000, or	5
	$500,000 or more	6
(DO NOT READ)	(Don't know	X
	(Refused	R

5. Now please tell me how familiar you are with a new investment product called Exchange Traded Index Funds. Some of the better-known names for these funds are Spiders, Diamonds, Cubes or Webs. Would you say that... (READ LIST)?

	You currently own one of these funds	6
	You owned one of these funds in the past, but don't currently own one	5
	You have never owned one of these funds, but are very familiar with them	4
	You have never owned one of these funds, but are moderately familiar with them	3
	You have never owned one of these funds, but are slightly familiar with them, or	2
	You have never heard of them	1
(DO NOT READ)	Don't know	X
	Refused	R

(INTERVIEWER NOTE: READ LIST OF FEATURES ALL THE WAY THROUGH. FOR CLARITY, SAY THE NUMBER OF THE FEATURE BEFORE EACH. FOR EXAMPLE, "ONE, ARE PRICED CONTINUOUSLY ...", "TWO, HAVE MUCH LOWER ...", ETC.)

6. Exchange Traded Index Funds are essentially index mutual funds that trade like stocks. These funds offer a number of potential benefits compared to both individual stocks and traditional mutual funds. First, I am going to read you a list of these features. As I read the list to you, please think about how important each feature might be in your potential decision to purchase an Exchange Traded Index Fund instead of individual stocks or a traditional mutual fund. Here is the list of features ...

1. Are priced continuously throughout the day, as opposed to traditional mutual funds which are only priced once at the end of the day.
2. Have much lower expense ratios than most actively managed mutual funds, and are even lower than many index mutual funds.
3. Are substantially more tax-efficient than most actively managed mutual funds, and are even more tax-efficient than many index mutual funds.
4. Offer more flexibility in terms of trading and taxes than traditional mutual funds.
5. Offer roughly the same trading and tax benefits as individual stocks, but also offer the diversification of traditional mutual funds.
6. Allow you to buy an entire market sector with only one trade.
7. Allow you to invest in market sectors and market indices that traditional mutual funds do not offer.

Now, for each feature I read back to you, please tell me whether it would be a Primary Reason, a Minor Reason, or Would Not Be a Factor in your potential decision to purchase an Exchange Traded Index Fund instead of individual stocks or a traditional mutual fund.

(First/next), consider that Exchange Traded Index Funds ... (INSERT AND RANDOMIZE ITEM). Would you say that this would be ... **(READ LIST. REPEAT SCALE AS NECESSARY. ENTER SINGLE RESPONSE FOR EACH ITEM.)**

(CONTINUED FROM QU. 6.)

(ITEMS:)

Are priced continuously throughout the day, as opposed to traditional mutual funds which are only priced once at the end of the day.

Have much lower expense ratios than most actively managed mutual funds, and are even lower than most index mutual funds.

Are substantially more tax-efficient than most actively managed mutual funds, and are even more tax-efficient than most index mutual funds.

Offer more flexibility in terms of trading and taxes than traditional mutual funds.

Offer roughly the same trading and tax benefits as individual stocks, but also offer the diversification of traditional mutual funds.

Allow you to buy an entire market sector with only one trade.

Allow you to invest in market sectors and market indices that traditional mutual funds do not offer.

	A primary reason to purchase	3
	A minor reason to purchase, or	2
	Would not be a factor in your decision	1
(DO NOT READ)	Don't know	X
	Refused	R

7. Based on the descriptions you have heard, how interested would you say you are in purchasing an Exchange Traded Index Fund in the future? Would you say you are ... (READ LIST. ENTER SINGLE RESPONSE.)

	Extremely interested	4	
	Very interested	3	
	Somewhat interested, or	2	
	Not at all interested	1	(SKIP TO DEMOS)
(DO NOT READ)	Don't know	X	(SKIP TO DEMOS)
(DO NOT READ)	Refused	R	(SKIP TO DEMOS)

8. If you were to purchase an Exchange Traded Index Fund in the future, which of the following investments might you replace or forego because you were purchasing an Exchange Traded Index Fund?

Do you think you might replace or forego buying (INSERT ITEM) in order to purchase an Exchange Traded Index Fund? (DO NOT READ LIST. ENTER SINGLE RESPONSE FOR EACH ITEM. DO NOT RANDOMIZE ITEMS.)

	Yes	No	Don't Know	Refused
Individual stocks	1	2	X	R
Index mutual funds	1	2	X	R
Sector mutual funds	1	2	X	R
Actively managed non-sector mutual funds	1	2	x	R

TeleNation Methodology

An Overview

SAMPLE

Each week TeleNation completes 3 national telephone surveys. Each survey (wave of TeleNation) consists of a minimum of 1,000 interviews with adults 18 years of age or older; 480 males and 520 females. TeleNation uses a single-stage, random digit-dial (RDD) sample technique to select each sample from all available residential telephone numbers in the contiguous United States. This nonclustered approach insures true random selection among all telephone numbers and provides a truly independent sample for each wave. Up to three attempts are made on the selected telephone numbers.

INTERVIEW

TeleNation interviews are conducted over a 3-day period via Market Facts' CATI network in its National Telephone Centers. TeleNation employs AUTOQUEST®, Market Facts' computer assisted telephone interviewing system, to conduct telephone interviews. This CATI software insures consistent execution of the questionnaire and efficient sample management. The interview, itself, consists of non-competing clientspecific questions and a shared set of standard demographic questions. TeleNation provides transitional phrases between survey segments to insure smooth interview flow.

TABULATION

TeleNation survey results are tabulated by two standard demographic banners.

A. GENDER, AGE, INCOME, MARITAL STATUS, CHILD IN HOUSEHOLD
B. REGION, RACE, EDUCATION, EMPLOYMENT STATUS, PRIMARY GROCERY SHOPPER, HOME OWNERSHIP

TeleNation's standard data tabulations are provided in a weighted format. The data are weighted on an individual multidimensional basis to give appropriate representation of the interaction between various demographic factors. The multidimensional array covers gender, within age, within household income within the four National Census Regions, resulting in 160 different cells. The current Population Survey from the U.S. Census Bureau is used to determine the weighting targets for each of these 160 cells.

Market Facts Inc., was founded in 1946 and is one of the leading U.S. providers of custom marketing research. Market Facts' Financial Services Practice (FSP) provides value added primary and secondary research to the investment, banking and insurance industries. The Financial Services Practice specializes in brand equity, customer retention, segmentation and advertising tracking research. Using the resources of Market Facts, FSP marries traditional marketing research quality with insights that come from industry specialization. In addition, FSP applies distinctive tools in researching specialized populations such as high net worth individuals and Internet users.

INTRODUCTION TO FRC

Financial Research Corporation is the premier provider of competitive market research and analytic services to the mutual fund industry. For fourteen years, our firm has responded to the needs of the marketing professional for complete, accurate, and timely market information. We have also provided the tools to effectively use this information to build more profitable marketing programs.

Since the founding of FRC, the mutual fund industry has grown dramatically. But with growth has come an increasingly competitive and challenging marketplace. Just keeping pace with the explosion of new products, pricing options, distribution channels, and competitors has become a costly and time-consuming effort. To help in this effort, and in the many other challenges facing mutual fund marketing departments, FRC has developed innovative and unique products tailored to meet the growing needs of fund marketers.

- FRC was the *first* firm to offer a mutual fund database specifically designed for in-house use by the marketing professional. Today this database, the **ACCESS/FRC** system, remains the most comprehensive available, combining the resources of Standard & Poor's Micropal, Morningstar, and the ICI.
- Complementing the database is the **Market Analyst** report. This hardcopy quarterly provides a complete update on the fund marketplace including unique in-depth profiles of leading fund distributors — an analysis unavailable from any other source.
- For the most insightful examination of the latest industry trends, the **FRC Monitor** offers a monthly executive review. With its concise but thorough analysis, the **FRC Monitor** is an effective way for the fund executive to stay informed.
- In addition to database products and subscription reports, FRC provides a full range of **Consulting Services** covering issues from product development to strategic positioning. These services draw on FRC's substantial information resources, as well as our years of experience in working closely with senior marketing professionals across the industry.

FRC provides its services to more than 100 leading fund distributors, banks, industry consultants, and service organizations, including firms representing all fund distribution channels. We are proud of our past success and our reputation, and we remain committed to providing our growing list of clients with information and services of the highest quality that will keep them well positioned for growth in the mutual fund industry.

FRC PRODUCTS AND SERVICES

VIEWS ON THE NEWS

This weekly e-mail summarizes the most relevant mutual fund industry news items appearing in print or on the Internet, including our assessment of the deeper implications associated with each article.

MARKET ANALYST

The most comprehensive, yet easily accessible review of the mutual fund industry and marketplace. An indispensable resource for fund marketing professionals featuring profiles of 100 leading firms.

CONSULTING SERVICES

A potent and cost-effective means of leveraging in-house efforts for marketing departments to deal effectively with the proliferation of new products, pricing alternatives, distribution channels, and promotional programs.

ACCESS/FRC

Analytical tool tracking over 10,000 funds in more than 650 complexes. These monthly updates convert raw data into useful marketing information.

FRC MONITOR

FRC's monthly executive research journal on key issues in strategic planning and product development.

ADVERTISING EFFECTIVENESS REVIEW

The only research available that enables you to measure the impact of advertising on sales to determine if your ad dollars are as productive as those spent by your peers.

MANAGEMENT PRESENTATIONS

Customized in-person reviews of product and distribution trends.

For more information on any FRC product or service, please call
Deb Wetherbee at 617-557-3325, or e-mail frcsales@frcnet.com.

Also, please visit our website at www.frcnet.com.

RECENT RESEARCH STUDIES

1. Creating a "Best in Class" Family of Products — Volume One
   2000 Sub-advised Mutual Fund Report
   Characterizes the nature of the subadvised marketplace. Who are the largest users of subadvisory services? Who are the fastest growing subadvisors? Which subadvisors deliver the best investment performance for a particular asset class?

2. Standing Out in a Crowded Marketplace — **Retail Brand Strength for Industry Leaders**
   (with Market Facts Inc.)
   A primer on the mechanics of branding, this new study will enable fund groups to determine whether their brand is actually making an impact with investors. The study provides a comprehensive understanding of consumers' awareness of, preferences for and commitment to specific mutual fund brands.

3. Waves Across the Atlantic — **Predicting Trends in the European Fund Industry**
   (with Sector Analysis Ltd.)
   Compares fund development in the US to that in Europe. Is the US a good model for Europe? How far behind the US is Europe?

4. Winning in an Uncertain World — Volume One: **Distribution Costs & Strategies for Mutual Funds** (with PriceWaterhouseCoopers)
   This first of its kind study provides comprehensive data and interpretation of the business models and costs associated with successful mutual fund sales and marketing.

5. Creating a "Best in Class" Family of Products — Volume Two
   Sub-advised Variable Annuity Report
   The industry's first comprehensive report that analyzes the rapid rise in external investment manager use in variable annuity products.

6. **Predicting Mutual Fund Performance**
   A thought-provoking study that critically evaluates eight commonly used mutual fund selection screens. If past performance is not correlated to future performance, then what is?

7. **Examining Trends in the RIA Marketplace**
   Offers critical market intelligence to financial services' providers seeking to build loyalty and effectively target this often elusive and frequently misunderstood constituency.

New studies coming in 2000

- **Distribution Costs & Strategies for the Canadian Fund Industry**
- **Distribution Costs & Strategies for Variable Annuities** (Winning Volume II)
- **Wholesaling Costs & Strategies** — New Models for Success
- "No Taxation Without Liquidation" — **The Future of Tax Managed Funds**
- **Intermediary Brand Strength** — Standing Out in a Crowded Marketplace Volume II

For more information or to order a copy of these studies, please contact Deb Wetherbee at 617-557-3325.